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NAVAL FACILITIES ENGINEERING COMMAND

(NAVFAC) FIELD OFFICE READINESS

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ACRONYMS AND ABBREVIATIONS

ACF	Area Cost Factor
ACO	Administrative Contracting Officer
AE	Architect & Engineer (services)
AF_c,AF_s	Adjustment Factor Construction,Facilities Service
AROICC	Assistant ROICC
CEC	Civil Engineer Corps, U.S. Navy
CO	Commanding Officer
CONREP	Construction Representative
DROICC	Deputy ROICC
EFD,EFA	Engineering Field Division, Activity
FIP	Facilities Service Work In Place
FSC	Facilities Support Contracts
K,KO	Contracting Staff, Officer
NAVFAC	Naval Facilities Engineering Command
OICC	Officer In Charge of Contraction
PCAS	Post Contract Award Services
PCO	Procurement Contracting Officer
PWC,PWD,PWO	Public Works Center, Department, Officer
QA,Q,QAE	Quality Assurance, Staff, Evaluator
ROICC	Resident Officer In Charge of Construction
T	Technical Staff
WIP1,2	Work In Place Type 1, Type 2

ABSTRACT

The Naval Facilities Engineering Command (NAVFAC) plans, designs, constructs, maintains and repairs all buildings and facilities for the U.S. Navy around the world. Building and facility planning, maintenance and repair are the responsibility of the NAVFAC public works organizations. Building and facility design and construction are the responsibility of the NAVFAC construction management field offices or ROICCs (Resident Officer In Charge of Construction).

The following discussion begins with a brief overview of the U.S. Navy Civil Engineer Corps (CEC), the Naval Facilities Engineering Command and Navy contracting. The ROICC field office is introduced with a description of its staffing, organization and relationship to the Navy public works organization. Consolidation of facilities contracting functions between the ROICC field office and public works leads into a discussion on field office readiness, or the ability of the field office to accomplish its mission.

Several field office readiness category measures are presented, but this paper focuses on NAVFAC field office staffing readiness and the staffing algorithms. The staffing algorithm is a set of equations used to determine the number of required field office staff as a function of projected

annual facilities contracting work in place. The development of the NAVFAC staffing algorithm is presented with analysis. Staffing data and analysis of all NAVFAC field offices is also presented.

The paper concludes finding success in NAVFAC's Field Office Readiness initiatives and closes with recommendations for improvement in field office readiness reporting and a brief look into the future of field office assessment.

INTRODUCTION

I chose my major report topic with the intent to learn more about ROICC field offices in preparation for my first Navy construction management job. It was also my desire to benefit the Navy with my study. I began studying the NAVFAC staffing model and algorithm in February 1999 when NAVFAC was struggling to create a staffing model that would receive NAVFAC wide acceptance. At this time my objective was to help create the staffing model.

The majority of my study was done in May 1999 and by this time an acceptable model had been created. My objective then became to report and analyze NAVFAC algorithm development.

Civil Engineer Corps

U.S. Navy Civil Engineer Corps (CEC) Officers are the professional engineers and architects responsible for managing

the planning, design, construction, operation, maintenance and repair of the U.S. Navy's shore facilities around the world. During the first ten years of a junior CEC officer's career, it is desirable and career enhancing to attain engineering work experience in three primary fields: public works, construction management and construction battalions (Seabees), and to earn a masters degree in engineering, urban planning or financial management.

Public Works experience is attained by working for two to three years at one of the seven large Public Works Centers (PWCs) covering regional areas, at a station Public Works Department (PWD), or by working for a smaller tenant command on board an installation as a Staff Civil Engineer (SCE) and facilities manager. Construction Battalion or Seabee experience is primarily earned by completing a two year tour in one of the eight active deploying Naval Mobile Construction Battalions (NMCBs) or one of the two Amphibious Construction Battalion (ACBs). Construction management experience is attained by working two to three years at a Resident Officer In Charge of Construction (ROICC) office managing post-award government contracts to civilian contractors for facilities construction, maintenance and repair projects. CEC officers earn their masters degrees by attending civilian universities for 12 months under the Navy's Fully Funded Graduate Education

Program. The most common masters degrees earned by CEC officers in recent years have been in construction management, followed by environmental engineering.

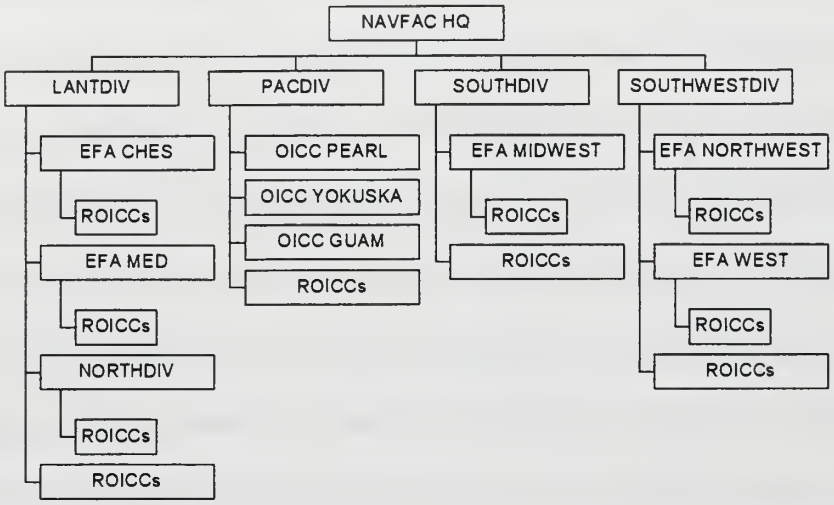
Naval Facilities Engineering Command

The Naval Facilities Engineering Command (NAVFAC) is the U.S. Navy's facilities, installation and contingency engineering Systems Command primarily serving the Navy and Marine Corps team, but also serving Unified Commanders, the Department of Defense (DOD) and other federal agencies (NAVFAC, 1999). The Navy has hundreds of naval shore facilities worldwide that are like small cities with hospitals, airfields, power plants, utility systems, housing, stores, office buildings, etc. NAVFAC provides overall facilities engineering, management, planning, design, construction, maintenance and repair oversight to all naval shore facilities. NAVFAC also provides technical and management support for real estate acquisition and disposal, Base Realignment and Closure, and environmental projects and programs.

Regional oversight is delegated by NAVFAC to four Engineering Field Divisions (EFDs: Atlantic, Southern, Southwest and Northern) and five Engineering Field Activities (EFAs: Mediterranean, Chesapeake, Midwest, West and

Northwest). Under the EFDs and EFAs are the installation, or "field", ROICC offices (Figure 1).

Figure 1. NAVFAC Organization



NAVFAC's annual volume of business is approximately $8 billion. Of that amount, more than $4.3 billion is in fixed price, competitively bid military construction and repair contracts awarded to private businesses. About $1.9 billion is expended at Public Works centers, of which $1 billion is in contracts awarded in the private sector. NAVFAC and its subordinate commands have a workforce of about 18,000 civilian and military personnel (NAVFAC, 1999). NAVFAC Headquarters is at the Washington Navy Yard, Washington D.C.

U.S. NAVY CONTRACTING

Contracting between public and private entities, especially with the U.S. federal government, varies significantly from contracting between private parties. Actions that are legitimate in private contracting are not allowed in the public arena. The primary reason for this is the protection of the public good. In public contracting taxpayer money is spent and the federal government has the responsibility to spend that money wisely, and in ways that benefit the public or nation as a whole (CECOS, 1997).

U.S. Navy contracting is regulated by several laws, among these are the U.S. Constitution, the Armed Services Procurement Act of 1947, the Defense Acquisition Workforce Improvement Act (DAWIA) of 1990, the Federal Acquisition Streamlining Act of 1994, and a number of U.S. Codes such as the Small Business Act, Davis-Bacon Act, Buy American Act, and Fair Labor Standards Act. Additionally, U.S. Navy contracting is governed by the Federal Acquisition Regulation (FAR), the Department of Defense FAR Supplement (DFARS), the Navy Acquisition Procedures Supplement (NAPS) and the NAVFAC P-68 Contracting Manual. Together, these regulations define required Navy contracting procedure. No

one of these regulations is complete by itself (CECOS, 1997).

The Navy contracting process occurs in three phases: planning, formation and administration. In the planning stage, the customer's project requirements are developed. Formation involves contract solicitation and award. Administration is assuring performance of contract terms after award. The EFAs are most involved in the formation phase. EFA degree of involvement with contract formation depends on the staffing of each ROICC office. Some ROICC offices have the staffing to do more of their own contract solicitation and award work than other ROICC offices and therefore require less assistance from their EFA with contract formation. Of the three phases, post-award contract administration is the primary focus of the ROICC field office.

THE ROICC OFFICE

Staffing

There are several positions in the ROICC office. Leading the organization is a mid-grade to senior CEC officer with the title of Resident Officer In Charge of Construction (ROICC) or Deputy Resident Officer In Charge

of Construction (DROICC) depending on the office relationship with the local PWC or PWD and regional EFA or EFD. A civilian Resident Engineer typically serves in a supervisory role to assist the ROICC/DROICC. Junior CEC officers serve as Assistant Resident Officers In Charge of Construction (AROICCs) as Project Managers to manage post-award contract construction.

Other positions in the ROICC office include the 1102 Contract Specialists who have overall responsibility for all contract processes and documents. Supporting the AROICC in project management are Project Engineers or Project Architects, and Construction Representatives (CONREPs). The CONREP primarily monitors the contractor for quality, progress, labor, safety, Buy America Act, etc. Also in the office are clerks and assistants to provide administrative support. Typical small, medium and large ROICC office organizations are shown in figures 2, 3 and 4 (CECOS, 1997).

Figure 2. Small ROICC Office

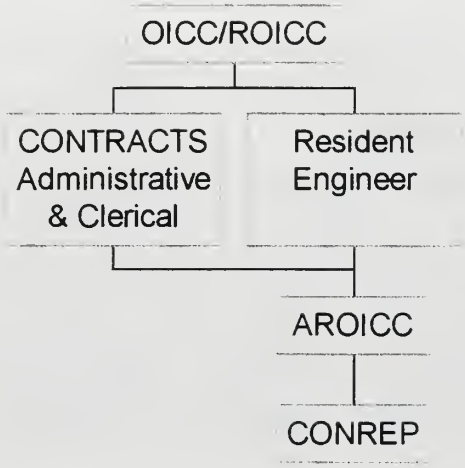


Figure 3. Medium ROICC Office

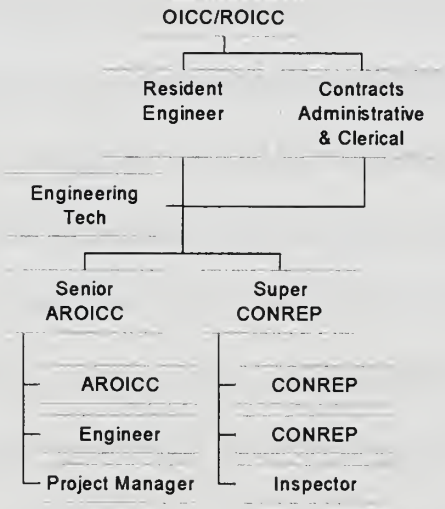
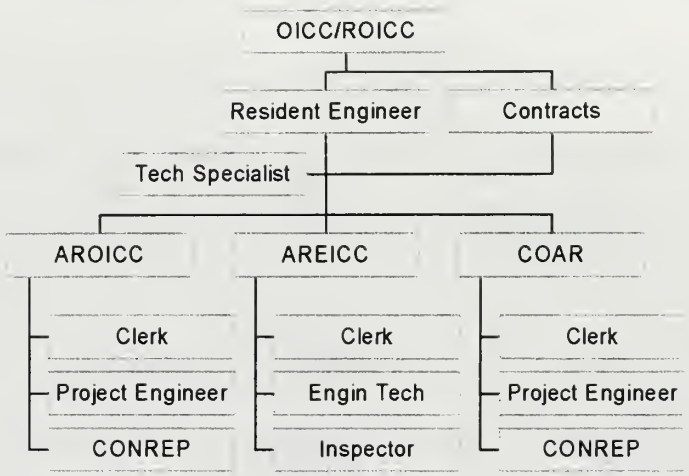


Figure 4. Large ROICC Office



The ROICC, AROICCs and 1102 Contract Specialists are Contracting Officers (KO). Only Contracting Officers can enter into, administer and modify contracts. They are also responsible for ensuring performance of all necessary actions for effective contracting (CECOS, 1997).

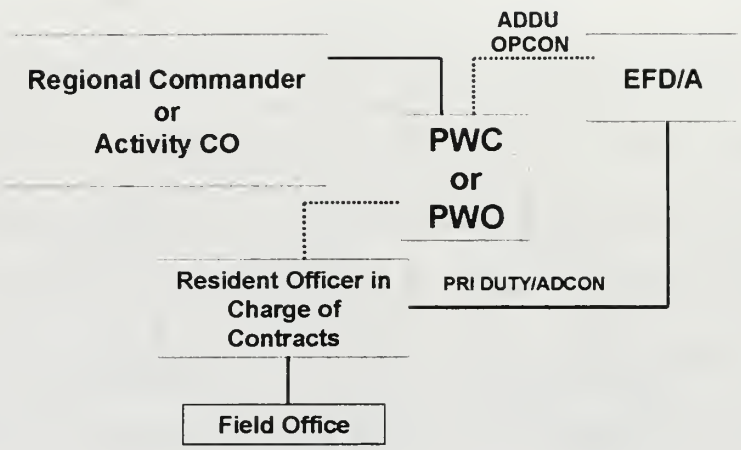
ROICC offices are staffed based on the experience of the ROICC officers in charge and the EFAs. The number of office staff is determined based on the number and size of the contracts, nature and complexity of work, construction physical constraints, geographic location, staff experience, etc. As the amount of construction work in the office increases or decreases, so does the number of office staff.

In Navy contracting, it is required that a single individual performs only one of the three following functions: 1) initiation of the requirement, 2) contract award, and 3) receipt, inspection and acceptance of services (CECOS, 1997). This requirement serves to prevent collusion and fraud, and protect the public good. To meet this requirement, ROICC contracts are awarded by an office Contract Specialist and work is monitored, inspected and accepted by an AROICC, Project Engineer and CONREP.

ROICC and Public Works

Most naval stations around the world have a Public Works organization and a separate, but related, ROICC organization. Typically, a station Public Works officer also heads the ROICC organization (Fig. 5). To this day, both the Public Works and ROICC organizations award and administer contracts for facilities construction, maintenance and repair, but this will change and will be discussed later. Although both offices award facilities contracts, there has been a difference in the contracts awarded and managed by the two offices.

Figure 5. Command & Control



Traditionally, the ROICC field offices have awarded and managed higher dollar facilities construction, maintenance and repair contracts which involve sophisticated engineering, design and quality control. Public Works organizations have also administered facilities construction, maintenance and repair contracts, but the work has been less sophisticated with limited technical design and typically lower dollar amounts. Public Works has also administered facilities services contracts such as base operating services, janitorial and grounds maintenance services from their Facilities Support Contracts (FSC) offices.

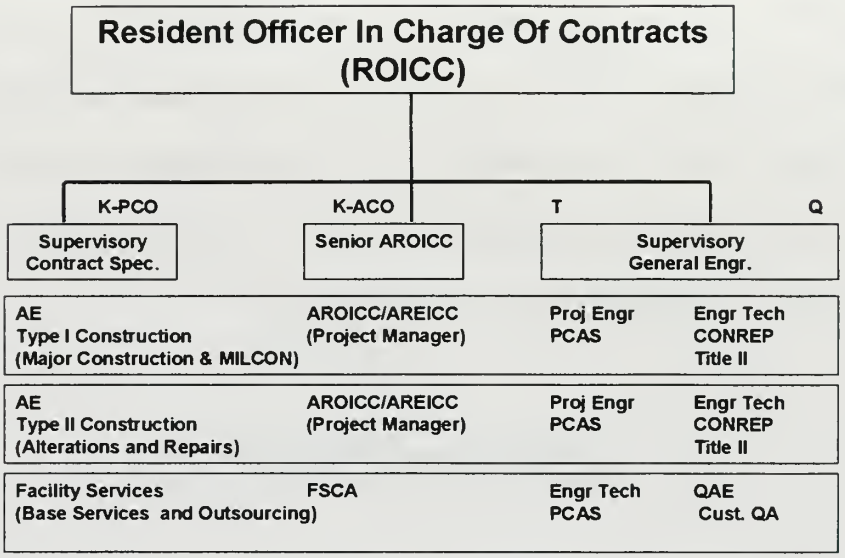
Although the difference in contracting has been clear among the staff of the Public Works and ROICC

organizations, the difference has caused much customer confusion. At one time, a single customer may have a facilities project managed by the ROICC office and others managed by Public Works. When a customer determines a need for a new facilities project, or has a question about an ongoing project, they usually don't know whether to contact the ROICC office or Public Works.

CONSOLIDATION

In 1996, NAVFAC began meeting with the EFDs and PWCs in "EFD/PWC Summit Meetings" in an effort to improve NAVFAC facilities contracting services. From these meetings came a significant change in NAVFAC business. It was determined that Public Works and ROICC contracting services should be consolidated to reduce redundancies, realize economies of scale, improve efficiency and save money. As part of this consolidation, a standard combined ROICC Field Office Model was defined (Fig. 6) and NAVFAC construction work was divided into two types, Type I and Type II (NAVFAC, 1998).

Figure 6. Field Office Model



Type I and Type II Work

Type I construction involves sophisticated engineering and design, or requires plans and specifications. Type I construction includes:

- Construction involving structural engineering, fire protection, high voltage electrical work or high risk safety hazards regardless of the size or complexity of the project.
- Construction work that would require a licensed Professional Engineer or Registered Architect's seal to obtain a building permit.
- Construction requiring Professional Engineers to design and manage construction

- Environmental work executed by contract (NAVFAC, 1998)

Type II construction requires limited technical design and can be executed by delivery order or task order contracts, or in-house PWC or PWD forces. Type II construction is:

- Less sophisticated maintenance work with incidental construction and cosmetic renovation.
- Work that could receive a building permit without a licensed Professional Engineer or Registered Architect's seal (NAVFAC, 1998).

These definitions of Type I and Type II work help to establish minimum professional guidelines for design and execution of NAVFAC construction work.

As mentioned earlier, there was a desire to reduce contracting redundancies. ROICC offices had 1102 Contract Specialists (K, for contract staff) awarding Type I contracts and Public Works also had 1102 Contract Specialists (K) awarding facilities services and Type II contracts. ROICC offices had Project Engineers (T, for technical staff) to provide technical engineering support for Type I contracted projects, and Public Works had Engineering Techs (T) to provide technical support for more

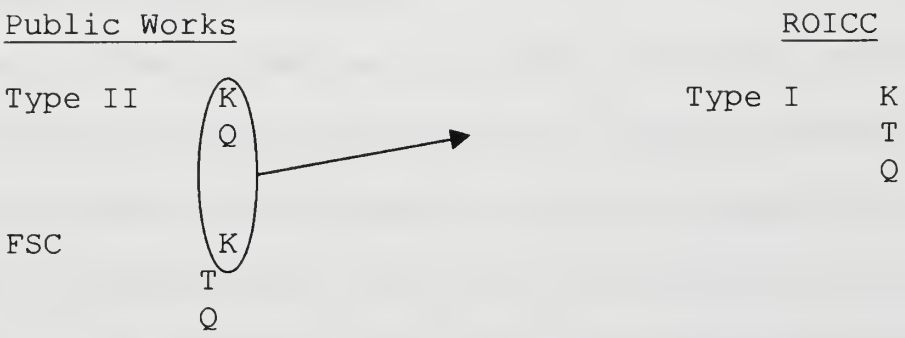
technically sophisticated facilities maintenance contracts to maintain utility and fire protection systems. ROICC offices had Engineering Techs and CONREPs (Q, for quality assurance staff) to monitor contractor performance in the field, inspect and accept work, and Public Works had 1101 Quality Assurance Evaluators (Q) to inspect and accept work on Type II and facilities services contracts.

11xx Transfer

From the EFD/PWC Summit Meetings, NAVFAC developed the "11xx Transfer" to reduce facilities contracting redundancies and improve contracting efficiency. The Public Works 1102 Contract Specialists and Type II 1101 Quality Assurance Evaluators would be transferred to the ROICC offices to consolidate the two contracting offices into one. The Facilities Support Contracts office Engineering Techs (T) and Quality Assurance Evaluators (Q) would remain in the Public Works organization but work closely with the ROICC field office. This 11xx Transfer is illustrated in Figure 6.1 and the ROICC Field Office Model was created as shown previously in Figure 6. The Field Office Model incorporates all elements of the 11xx Transfer. It's important to note that the ROICC Field Office Model is not an organizational chart. It is a

functional chart illustrating the relationships of contracting functions.

Figure 6.1 11xx Transfer



As a result of the 11xx Transfer, engineer-acquisition talent is pooled, economies of scale are realized and delivery costs are reduced. NAVFAC acquisition offices at the Public Works Centers, Engineering Field Divisions and Engineering Field Activities totaled 17 in 1997. In 1998, Public Works Center San Francisco was closed entirely. In 1999 all Public Works Center acquisition offices will be closed with contracting functions transferred to the Engineering Field Divisions and Engineering Field Activities to bring the number of NAVFAC acquisition offices down to 9. Financial savings in 2000 will be $23.7 million and overhead contracting staff will decrease by 106 personnel.

FIELD OFFICE READINESS

In August 1998, the NAVFAC Operations Group was tasked to develop a system to measure field office readiness, or office ability to perform its mission. First, field office criteria to be measured had to be identified followed by development of specific measures for each criteria. These readiness measures had to incorporate the changes in the field offices caused by the 11xx Transfer and the Field Office Model. The Operations Group referred to an already established readiness reporting system in use for years with the operational Naval Mobile Construction Battalions. That readiness reporting system is most commonly called SORTS which stands for Status Of Resources and Training System. In December 1998, NAVFAC hosted the first Field Office Readiness Assessment Meeting at the Navy Yard in Washington D.C. The meeting was attended by the NAVFAC, EFD and EFA Operations Officers. From this meeting came the draft "beta version" Field Office Readiness Assessment System (FORAS), the predecessor to the NFOR NAVFAC Field Office Readiness reporting system.

The readiness criteria that received the most attention and debate was ROICC office staffing. Each EFD developed their own staffing model and presented it during

the December 1998 meeting. The LANTDIV staffing model was the most established and was adopted for development of the NAVFAC model.

The LANTDIV Staffing Model

The LANTDIV staffing model was originally created to determine staffing requirements for LANTDIV ROICC field offices. The LANTDIV model was actually a group of six staffing models based on office functions, and a seventh staffing model for the total number of office staff (B_T). The six models were for pre-award 1102 Contract Specialist procurement staff (K_p), military (CEC) and civilian AROICC post-award contract administrators (K_{am} and K_{ac}), Project Engineers (T), CONREPs and Engineering Techs (Q), and administrative support staff (A). It's important to note the LANTDIV model only considered Type I work.

First, the total annual work for the office (W_T) is determined by:

$$W_T = (W_C + W_R)/(\text{Area Cost Factor} \times \text{NAVFAC Cost Index})$$

Where W_C is the office annual construction WIP and W_R is the office annual lease-construct WIP/3, both in millions of dollars. WIP is Work In Place which means the value of

construction work put in place during a period, in this case one year.

If $W_T \leq$ \$70 million, total office bodies is:

$$B_T = 3 + W_T/2.16$$

Or in the y = mx + b slope-intercept equation form:

$$B_T = .4630W_T + 3$$

And staffing by function is:

$$K_p = 1 + W_T/17.5 = .0571W_T + 1$$

$$K_{am} = .5 + W_T/13 = .0769W_T + .5$$

$$K_{ac} = .5 + W_T/13 = .0769W_T + .5$$

$$T = W_T/21 = .0476W_T$$

$$Q = 1 + W_T/6.5 = .1538W_T + 1$$

$$A = W_T/20 = .0500W_T$$

And $B_T = K_p + K_{am} + K_{ac} + T + Q + A$.

For $W_T >$ \$70 million, total office bodies is:

$$B_T = 35.35 + (W_T - 70)/4.25 = .2353W_T + 18.88$$

And staffing by function is:

$$K_p = 5.00 + (W_T - 70)/70 = .0143W_T + 4.00$$

$$K_{am} = 5.88 + (W_T - 70)/24 = .0417W_T + 2.96$$

$$K_{ac} = 5.88 + (W_T - 70)/24 = .0417W_T + 2.96$$

$$T = 3.33 + (W_T - 70)/44 = .0227W_T + 1.74$$

$$Q = 11.77 + (W_T - 70)/12 = .0833W_T + 5.94$$

$$A = 3.50 + (W_T - 70)/40 = .0250W_T + 1.75$$

Again, $B_T = K_p + K_{am} + K_{ac} + T + Q + A$.

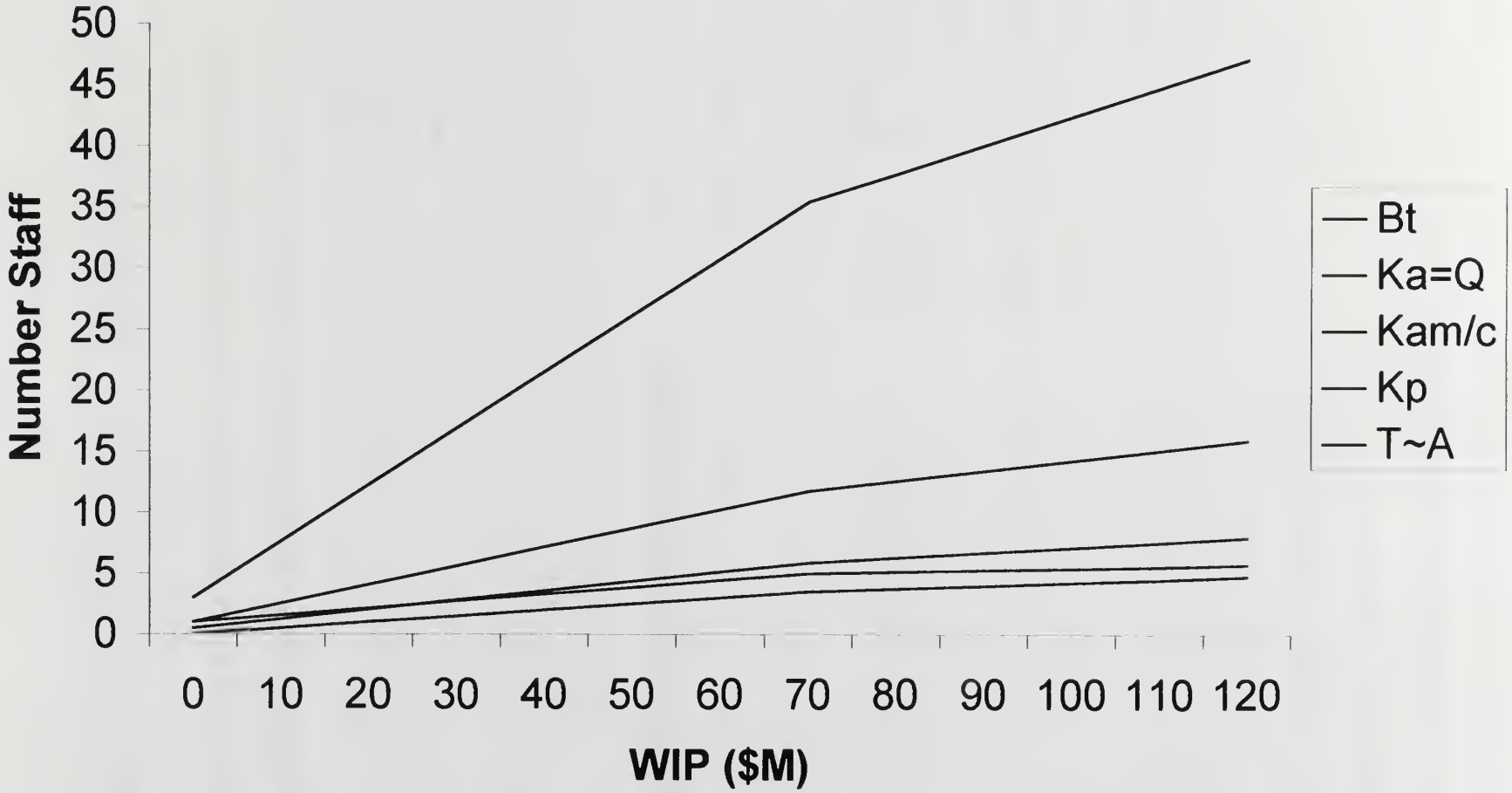
Taking total annual work W_T from \$0 to \$120 million, using an Area Cost Factor = 1 and a NAVFAC Cost Index =1, staffing numbers are calculated in Table 1 and graphed in Figure 7. In Table 1 and Figure 7 (in the LANTDIV model), $K_a = K_{am} + K_{ac}$ and $K_{am} = K_{ac}$, therefore $K_a = 2K_{am} = 2K_{ac}$. Also, $K_a = Q$ and $T \cong A$. In Figure 7, the lines from top to bottom are B_T, K_a and Q, K_{am} and K_{ac}, K_p, and finally, T and A.

Table 1. LANTDIV Staffing Model

Wt	Bt	Kp	Kam	Kac	Ka	T	Q	A
0	3	1	1	1	1	0	1	0
10	8	2	1	1	3	0	3	1
20	12	2	2	2	4	1	4	1
30	17	3	3	3	6	1	6	2
40	22	3	4	4	7	2	7	2
50	26	4	4	4	9	2	9	3
60	31	4	5	5	10	3	10	3
70	35	5	6	6	12	3	12	4
80	38	5	6	6	13	4	13	4
90	40	5	7	7	13	4	13	4
100	42	5	7	7	14	4	14	4
110	45	6	8	8	15	4	15	5
120	47	6	8	8	16	4	16	5

The LANTDIV model equations change at $70 million due to economies of scale because less office staff is required per million dollars WIP above $70 million. The total bodies staffing (B_T) line slope decreases from .463 to .235, showing that about half the staff is required per million dollars WIP above $70 million. The LANTDIV model reflects the Navy contracting requirement that a single individual performs only one of the three following functions: 1) initiation of the requirement, 2) contract award, and 3) receipt, inspection and acceptance of services. This is illustrated with $W_T = 0$ which gives $B_T = 3$.

Figure 7. LANTDIV Staffing Model



Example. Given ROICC Anywhere with W_T = $86 million, determine required office staffing.

Solution:

$B_T = 35.35 + (86-70)/4.25 = 39.11$

$K_p = 5 + (86-70)/70 =$	5.23	5	1102s
$K_{am} = 5.88 + (86-70)/24 =$	6.55	7	CEC AROICCs
$K_{ac} = 5.88 + (86-70)/24 =$	6.55	6	Civ. AROICCs
$T = 3.33 + (86-70)/44 =$	3.69	4	Engineers
$Q = 11.77 + (86-70)/12 =$	13.10	13	CONREPs
$A = 3.5 + (86-70)/40 =$	3.90	4	Admin Support
		39	Total Staff

(LANTDIV,1998).

Developing the NAVFAC Model

NAVFAC-wide field office WIP and staffing data had been collected prior to the December 1998 NAVFAC Field Office Readiness Assessment Meeting. From the December meeting, came the "Scenario C" staffing model:

Construction Staffing (K, T, Q & A) =

Class I WIP/(2.4 x AF) + Class II WIP/(1.5 x AF)

Service Staffing (K only) = WIP/(1.5 x AF)

where Class I WIP is annual WIP in millions of dollars on contracts valued at over $500,000, and Class II WIP is annual WIP in millions of dollars on contracts valued at less than $500,000. In the service staffing model, FIP is Facilities Services In Place, or the annual value of facilities service contracts. The "Adjustment Factor" AF is:

$$\text{Adjustment Factor (AF)} = (ACF-1)/2 + 1$$

and ACF is the Area Cost Factor. Area cost factors are based on a bi-annual survey of local costs for a market basket of 10 labor crafts, 20 construction materials, and 4 equipment items. These labor, materials, and equipment (LME) items are representative of the types of products and services used to construct most military facilities. The survey covers a list of 254 cities that includes 96 Base Cities (two per state in the continental US), 103 additional cities in the continental U.S., and 55 cities outside the continental United States (NAVFAC, 1999).

The Area Cost Factor is used in the staffing model to consider the differing cost of construction around the world. Constructing a 100 room barracks costs significantly more in Iceland than in Virginia, but both places require the same number of field office staff to

construct the identical building. Area cost factors for some NAVAFC ROICC field office areas are shown in Table 2.

Table 2. Area Cost Factors

Souda Bay, Crete	.74
Charleston, SC	.86
Jacksonville, FL	.90
Washington, DC	.96
Key West, FL	1.08
San Diego, CA	1.15
Sicily	1.22
Pearl Harbor, HI	1.48
Diego Garcia, BIOT	2.45
Iceland	3.20

The Adjustment Factor adjusts the Area Cost Factor towards 1. An ACF of .97 becomes an AF of .985, an ACF of 3.0 becomes an AF of 2.0, and an ACF of 1.57 becomes an AF of 1.265 (NAVFAC, 1999).

The "Scenario C" staffing model results are shown in Table 3 based on fiscal year 1998 data. Table 3 illustrates the difference between Scenario C staffing algorithm and NAVFAC field office staffing on board. Staffing "Construction Delta" equals "Construction On

Board" staffing minus "Construction Algorithm" staffing and Staffing "FSC (Facilities Support Contracts) Delta" equals "FSC On Board" staffing minus "FSC Algorithm" staffing.

Table 3. Scenario C Algorithm

	Constr Staffing Algonthm	FY98 Constr On-Board	Constr Delta	FSC Staffing Algonthm	FY98 FSC On-Board	FSC Delta	Total Delta
SouthDiv	253	283	29	61	28	-34	-5
EFA Midwest	44	44	0	4	2	-2	-2
SouthDiv PWCs	16	43	27	40	61	21	48
SWDiv	435	220	-215	57	44	-13	-228
EFA West	0	7	7	16	7	-10	-3
EFA NW	35	51	16	66	32	-34	-17
SWDiv PWCs	66	69	3	82	44	-38	-35
PacDiv (w/o Japan)	109	157	48	34	28	-6	43
PacDiv (Japan)	31	67	36	53	23	-30	6
PacDiv PWCs	35	45	10	40	44	4	14
LANTOPS	232	276	44	51	0	-51	-7
LANTOPS PWC	34	80	46	36	40	4	50
NorthDiv	122	178	56	40	0	-40	16
NorthDiv PWCs	21	16	-5	9	0	-9	-15
EFA Ches	136	0	-136	41	0	-41	-177
EFA Ches PWC	18	0	-18	71	0	-71	-89
EFA Med	54	0	-54	17	0	-17	-72
Totals	1642	1536	-106	719	352	-367	-472

Positive deltas indicate an on board staffing surplus compared to the algorithm staffing, negative deltas indicate on board staffing shortage.

The goal in developing the NAVFAC staffing model was to create an algorithm that calculates a field office staffing sufficient to accomplish the office's facilities contracting mission. If a field office is understaffed by say 7 people to execute its mission, then the algorithm should exceed the on board staffing by about 7. Likewise, if an office is overstaffed by 5, then the on board staff

should exceed the algorithm by 5. For the EFAs and EFDs, their deltas are the sum of the deltas of their field offices.

Table 3 staffing data is incomplete for EFA West, EFA Ches, EFA Ches PWC and EFA Med because zeros appear in the Construction Algorithm or On Board columns. Zeros in the FSC On Board column for LANTOPS, NorthDiv and NorthDiv PWCs don't necessarily indicate incomplete data for those groups because the Scenario C algorithm only counts FSC 1102 Contract Specialists On Board, and for fiscal year 1998 these groups might have had no 1102 Contract Specialists in any of their field offices.

Looking at the Total Deltas, most groups are negative. SouthWestDiv has a very large negative Total Delta. SouthDiv PWCs, PacDiv, LANTOPS and NorthDiv have positive Total Deltas.

Accurate conclusions about Table 3 can't be drawn due to lack of information. Table 3 data comes from the early stages in the NAVFAC staffing model development. Table 3 is from a spreadsheet that changed many times to produce several spreadsheet versions in attempts to create the NAVFAC model. It's unknown which spreadsheet version is reflected in Table 3 and no easily accessible records exist to determine the different versions. Also, data accuracy

is uncertain. This discussion of the Scenario C model was presented for a familiarization of the origin of the NAVFAC staffing model development.

FORAS

The draft Field Office Readiness Assessment System "beta version" came from the December 1998 meeting. Field Office criteria identified for measure included personnel staffing (PER), staff qualifications and training (TNG) and office equipment (EQP). Staff qualification criteria identified included measures for DAWIA (Defense Acquisition Workforce Improvement Act) training (TNG D1), professional registration (TNG R1) and quality assurance training (TNG Q1). Equipment criteria identified were vehicles (EQP V1) and information technology (EQP IT1). Each criteria measured would be categorized by a readiness rating similar to the SORTS C1 through C4 ratings. The ratings were defined as:

C1: Fully meets mission requirements.

C2: Substantially meets mission requirements with only minor difficulty.

C3: Only marginally meets mission requirements, but with major difficulty.

C4: Does not meet mission requirements.

The December meeting was followed up by conference calls in January 1999 for further FORAS development.

In February 1999, NAVFAC tasked the EFDs and EFAs to report readiness on each field office using the draft Field Office Readiness Assessment System "beta version". With their report submissions, the EFDs and EFAs were also asked to comment on their thoughts and concerns about the beta version. These reports were due and received by 3 March 1999.

NFOR

In late March 1999, the second Field Office Readiness Assessment meeting was held, again at the Navy Yard in Washington D.C. During this meeting, the results of the Field Office Readiness Assessment System beta version reports, and corresponding thoughts and concerns, were presented and discussed. The following changes were made:

1) Readiness Reporting Frequency: Change to quarterly from monthly.
2) Staffing Algorithm:
   a) Replace "Class I WIP" and "Class II WIP" with WIP_1 and WIP_2 (Type I WIP and Type II WIP).

b) Include facilities service model in with the Type I and Type II model to create one algorithm for total office staffing.

c) Make two staffing algorithms, the first for Type I WIP less than $70 million, the second for TYPE I WIP greater than $70 million.

d) Agreed on denominator constants to best reflect sufficient field office staffing.

e) Apply overall 15% increase to overseas offices.

f) Algorithm is only acceptable for use as a readiness measure, not to be used to allocate staff to field offices.

3) Professional Registration: Change measure from requiring all Lieutenants to have PE or RA, to only requiring Lieutenants with 8 or more years service.

4) Technical Training:

a) Include QAEs.

b) Update measure per draft NAVFAC P-445, *Construction Contract Quality Management*.

5) Information Technology:

a) Redistribute measure weights.

b) Modify and add criteria, make less stringent.

6) Review C Ratings: Review C ratings for each measure.

7) Final Rating:

a) Change from lowest of PER, TNG and IT, to summation of weights of each measure.

b) Require input for ROICC and EFD CO subjective office readiness rating.

8) Name Readiness Assessment System: "NAVFAC Field Office Readiness"

These changes produced the NAVFAC Field Office Readiness (NFOR) Full Production Version 1.0 .

NFOR 1.0

The following are the field office readiness measures from the NAVFAC Field Office Readiness (NFOR) Full Production Version 1.0, April 1999.

PERSONNEL STAFFING (PER)

1. Overall Staffing Rating. Field office staffing will be compared against the field office staffing algorithm. An overall staffing rating will be computed as follows:

$$OSR = \frac{\text{Actual Office Staffing}}{\text{Staffing Algorithm}}$$

2. Actual Office Staffing. Actual office staffing is the Full Time Equivalent (FTE, end of the last month of quarter, to correspond with quarterly reporting requirement) including military, civilian, and contractor personnel assigned to the field office.

3. Staffing Algorithm.

A. For $WIP_1 < \$70M$,

$$\text{Staffing} = \frac{WIP_1}{1.8 \times AF_c} + \frac{WIP_2}{1 \times AF_c} + \frac{FIP}{2 \times AF_s}$$

B. For $WIP_1 > \$70M$,

$$\text{Staffing} = \frac{70}{1.8 \times AF_c} + \frac{(WIP_1 - 70)}{4 \times AF_c} + \frac{WIP_2}{1 \times AF_c} + \frac{FIP}{2 \times AF_s}$$

C. A factor of 1.15 (15% increase) is applied to the entire staffing algorithm for OCONUS (overseas) field offices.

D. The staffing model factors are:

1) WIP (Work In Place) = the annual dollar amount of facilities construction, maintenance and repair work scheduled/completed, including materials and labor.

2) WIP_1 = WIP on Type I contracts in millions of dollars, work involves sophisticated engineering and design, plans and specifications.

3) WIP_2 = WIP on Type II contracts in millions of dollars, work involves limited technical design.

4) FIP = WIP on facilities services contracts.

5) AFc = adjustment factor, construction

= (ACF - 1)/2 + 1

6) AFs = adjustment factor, facilities services

= (ACF - 1)/3 + 1

7) ACF = Area Cost Factor (NAVFAC, 1999).

4. Readiness Measure. Calculate the office OSR and apply the OSR to the below criteria to determine the office PER C readiness rating.

OSR Range	Personnel Staffing Rating
≥ 1	C1
.8 to < 1	C2
.6 to <.8	C3
$\leq .6$	C4

5. Example. Given: ROICC Tahoe, ACF = 1.13, projects the following annual workload:

WIP_1 (Type I Construction)	= $35M
WIP_2 (Type II Construction)	= $ 5M
FIP Facilities Service Contracts	= $12M

and has the following staffing:

1 - LCDR ROICC
2 - LTJG AROICC
1 - GS-13 Supervisory General Engineer
1 - GS-13 Supervisory 1102 Contracts Specialist
4 - GS-11 1102 Contract Specialist
3 - GS-12 Engineers
4 - GS-9 Construction Representatives
2 - CASU secretary/payroll clerk
1 - Title II inspector
2 - Administrative Assistants

Total Staff = 21

Calculate field office staffing readiness.

Solution:

Adjustment Factor (AF_c) = (ACF-1)/2 + 1

= (1.13 - 1)/2 + 1 = 1.06

Adjustment Factor (AF_s) = (ACF-1)/3 + 1

= (1.13 - 1)/3 + 1 = 1.04

$$\text{Staffing} = \frac{35}{1.8 \times 1.06} + \frac{5}{1 \times 1.06} + \frac{12}{2 \times 1.04} = 28$$

$$OSR = \frac{\text{Actual Office Staffing}}{\text{Staffing Algorithm}} = 21/28 = .75$$

$.6 \leq OSR < .8$, Personnel (PER) C Rating = C3

Office only marginally meets mission requirements, but with major difficulty.

In this example, a C3 Personnel C Rating may accurately reflect ROICC Tahoe's staffing readiness, or the ROICC Tahoe Personnel C Rating might actually be C2 due to other factors involved but not accounted for in the measure. If the ROICC and EFD believe the Personnel C Rating is C2, they must report this and briefly describe the factors involved in the office readiness report.

6. Area Cost Factor. Table 4 calculates algorithm staffing numbers for various NAVFAC field office Area Cost Factors. Constant values for WIP_1 , WIP_2 and FIP are used. The results from Table 4 are graphed in Figure 8. In Figure 8, the lines from top to bottom are ACF = .74, .86, .96, 1.08, 1.22, 1.48, 2.45 and 3.20. These Area Cost Factors correspond to the NAVFAC field offices in Souda Bay Crete, Charleston SC, Washington D.C., Key West FL, Sicily, Pearl Harbor HI, Diego Garcia BIOT and Iceland. Both Table 4 and Figure 8 illustrate field office staff decreases with increasing Area Cost Factor, as expected.

Table 4. NFOR Model, Various ACFs, Constant WIPs and FIPs

1)ACF 0.74 Souda Bay		AFc 0.87 AFs 0.91	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	9.8
20	2	2	16.2
30	2	2	22.6
40	2	2	28.9
50	3	3	37.0
60	3	3	43.4
70	3	3	49.8
80	3	3	52.7
90	4	4	57.2
100	4	4	60.1
110	4	4	63.0
120	4	4	65.9

2)ACF 0.86 Charleston		AFc 0.93 AFs 0.95	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	9.2
20	2	2	15.1
30	2	2	21.1
40	2	2	27.1
50	3	3	34.7
60	3	3	40.6
70	3	3	46.6
80	3	3	49.3
90	4	4	53.6
100	4	4	56.3
110	4	4	59.0
120	4	4	61.7

3)ACF 0.96 Wash DC		AFc 0.98 AFs 0.99	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	8.7
20	2	2	14.4
30	2	2	20.1
40	2	2	25.7
50	3	3	32.9
60	3	3	38.6
70	3	3	44.3
80	3	3	46.8
90	4	4	50.9
100	4	4	53.4
110	4	4	56.0
120	4	4	58.5

4)ACF 1.08 Key West		AFc 1.04 AFs 1.03	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	8.2
20	2	2	13.6
30	2	2	18.9
40	2	2	24.3
50	3	3	31.1
60	3	3	36.4
70	3	3	41.7
80	3	3	44.1
90	4	4	48.0
100	4	4	50.4
110	4	4	52.8
120	4	4	55.2

5)ACF 1.15 San Diego		AFc 1.08 AFs 1.05	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	8.0
20	2	2	13.1
30	2	2	18.3
40	2	2	23.5
50	3	3	30.1
60	3	3	35.2
70	3	3	40.4
80	3	3	42.7
90	4	4	46.5
100	4	4	48.8
110	4	4	51.1
120	4	4	53.4

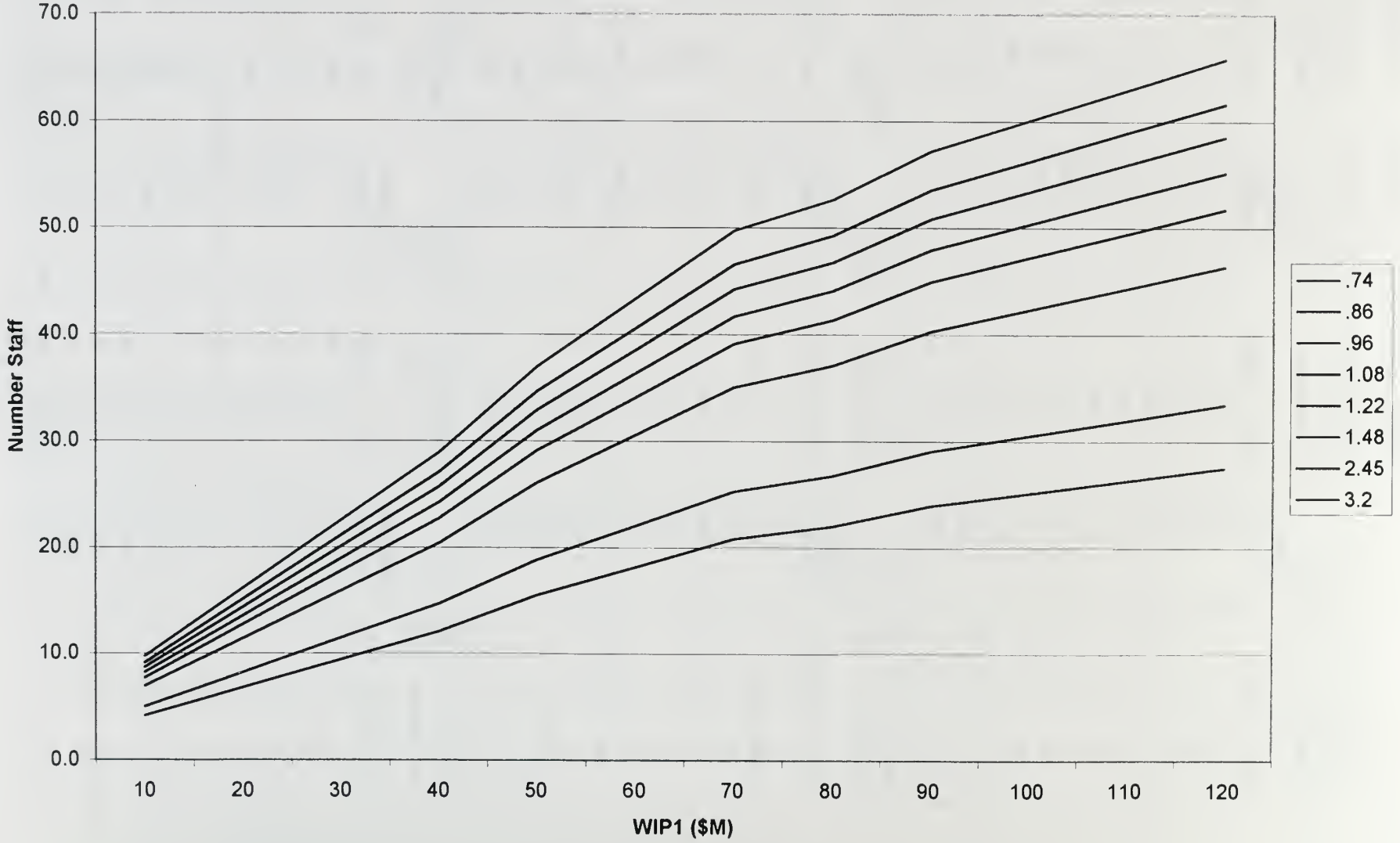
6)ACF 1.22 Sicily		AFc 1.11 AFs 1.07	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	7.7
20	2	2	12.7
30	2	2	17.7
40	2	2	22.8
50	3	3	29.1
60	3	3	34.1
70	3	3	39.1
80	3	3	41.4
90	4	4	45.0
100	4	4	47.3
110	4	4	49.5
120	4	4	51.8

6)ACF 1.48 Pearl Harbor		AFc 1.24 AFs 1.16	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	7.0
20	2	2	11.4
30	2	2	15.9
40	2	2	20.4
50	3	3	26.1
60	3	3	30.6
70	3	3	35.1
80	3	3	37.1
90	4	4	40.3
100	4	4	42.4
110	4	4	44.4
120	4	4	46.4

7)ACF 2.45 Diego Garcia		AFc 1.73 AFs 1.48	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	5.1
20	2	2	8.3
30	2	2	11.5
40	2	2	14.7
50	3	3	18.9
60	3	3	22.1
70	3	3	25.3
80	3	3	26.7
90	4	4	29.1
100	4	4	30.6
110	4	4	32.0
120	4	4	33.5

8)ACF 3.20 Iceland		AFc 2.10 AFs 1.73	
WIP1	WIP2	FIP	Algorithm Staffing
10	2	2	4.2
20	2	2	6.8
30	2	2	9.5
40	2	2	12.1
50	3	3	15.5
60	3	3	18.2
70	3	3	20.8
80	3	3	22.0
90	4	4	24.0
100	4	4	25.1
110	4	4	26.3
120	4	4	27.5

Figure 8. NFOR Model, Various ACFs, Constant WIPs & FIPs



Again referring to Table 4, in Souda Bay, Crete, a staff of 60 is required to accomplish \$100M WIP_1, \$4M WIP_2 and \$4M FIP. In Iceland, only a staff of 25 is required for the same construction dollar figures because construction is significantly more expensive in Iceland. Similarly, neglecting WIP_2 and FIP, the algorithm tells us a \$100M construction project in Iceland is equivalent to a \$35M project in Souda Bay. Both projects require 25 field office staff.

Instead of comparing the two extremes, let's look at Washington D.C. and Pearl Harbor. In Washington D.C., \$50M WIP_1, \$3M WIP_2 and \$3M FIP requires a field office staff of 33. In Pearl Harbor construction is more expensive and the same construction dollar values only require a filed office staff of 26.

7. NFOR vs. Actual Staffing. The NFOR staffing algorithm was developed with the spreadsheet shown in Table 5. Table 5 calculates NFOR algorithm staffing for all NAVFAC field offices, compares the algorithm staffing against actual on board staff, and determines individual office PER C Readiness ratings.

Algorithm explanation:

$$\text{Staffing} = \frac{\text{WIP1}}{\textbf{1.8} * \text{AFc}} + \frac{\text{WIP2}}{\textbf{1} * \text{AFc}} + \frac{\text{FIP}}{\textbf{2} * \text{AFs}}$$

Where

WIP1 = Construction Type I WIP
WIP2 = Construction Type II WIP
FIP = FSC WIP (Service contract WIP)
1.8 = Type 1 denominator factor (4 for WIP1 > 70M)
1 = Type II denominator factor
2 = FSC denominator factor
AFc = Adjustment factor for construction (AFc = (ACF-1)/**2** + 1)
AFs = Adjustment factor for services (AFs = (ACF-1)/**3** + 1)

A factor of 1.15 (15% increase) is applied to the entire staffing algorithm for O'CONUS field offices.

Algorithm explanation: When WIP1 > $70M

$$\text{Staffing} = \frac{70}{\textbf{1.8} * \text{AFc}} + \frac{\text{WIP1-70}}{\textbf{4} * \text{AFc}} + \frac{\text{WIP2}}{\textbf{1} * \text{AFc}} + \frac{\text{FIP}}{\textbf{2} * \text{AFs}}$$

Construction Staffing includes military, KPco, KAco, T, Q and A for construction, Type I and II
FSC Staffing includes KPco, KAco only (the 11XX transfer billets)

FACTORS: CHANGING THESE FACTORS AFFECTS SUMMARY BELOW AND FOLLOWING SPREADSHEETS

Type I Factor	**1.8**	**OS LANT**	**1.15**	**C2**	**0.8**
Type II Factor	**1**	**OS PAC**	**1.15**	**C3**	**0.6**
Service Factor	**2**	**$70M**	**4**		
Afc Factor	**2**	**FACTOR**			
Afs Factor	**3**				

Summary:

	Constr Staffing Algorithm	Constr On-Board	Constr Delta	FSC Staffing Algorithm	FSC On-Board	FSC Delta	Total Staffing Algorithm	Total On-Board	Total Delta	C FACTOR	C RATING
LANTOPS	293	242	-52	45	35	-11	338	276	-62	0.82	2
EFA NORTH	158	148	-10	30	26	-4	187	174	-13	0.93	2
EFA CHES	218	159	-59	29	24	-5	247	183	-64	0.74	3
EFA MED	77	79	2	21	26	5	98	105	7	1.07	1
LANT TOTAL	**746**	**628**	**-118**	**125**	**111**	**-14**	**871**	**738**	**-133**	**0.85**	**2**
SOUTH	277	279	1	48	33	-16	325	311	-14	0.96	2
EFA MW	52	40	-12	2	1	-1	54	40	-14	0.75	3
SOUTH TOTAL	**329**	**318**	**-11**	**50**	**33**	**-17**	**379**	**351**	**-28**	**0.93**	**2**
PAC	182	265	83	110	120	9	292	385	93	1.32	1
PAC TOTAL	**182**	**265**	**83**	**110**	**120**	**9**	**292**	**385**	**93**	**1.32**	**1**
SWEST	293	225	-69	35	28	-7	328	253	-75	0.77	3
EFA WEST	107	70	-37	14	2	-12	121	72	-49	0.59	4
EFA NW	42	48	6	52	33	-19	94	81	-13	0.86	2
SWEST TOTAL	**442**	**343**	**-99**	**101**	**63**	**-39**	**543**	**406**	**-137**	**0.75**	**3**
TOTAL	**1698**	**1553**	**-145**	**386**	**326**	**-61**	**2084**	**1880**	**-205**	**0.90**	**2**

	Typa I Factor	1.8		OS LANT	1.15	C2	0.8																							
	Typa II Factor	1		OS PAC	1.15	C3	0.8																							
	Service Factor	2		$70M	4																									
	Afc Factor	2		FACTOR																										
	Afs Factor	3																												
								FY99	FY99	FY99	FY99	FY99	FY99	FY99	FY99	Algorithm	Algorithm	Algorithm	OnBoard			OnBoard							
				FY99	FY99	FY99	FY99	On-Board	On-Board	On-Board	On-Board	On-Board	On-Board	On-Board	On-Board	Type I	Type II	Constr	Constr		Algorithm	FSC			Algorithm	OnBoard			
				Type I WIP	Type II WIP	Total WIP	Serv WIP	Constr	Constr	Constr	Constr	FSC	FSC	FSC	FSC	Constr	Constr	Staffing	Staffing	Constr	FSC	Staffing	FSC	Total	Total	Total	C	C
Div	Field Office		ACF	$M	$M	$M	$M	Military	Civilian	Contractor	Total	Military	Civilian	Contractor	Total	Staffing	Staffing	Subtotal	Subtotal	Delta	Staffing	Subtotal	Delta	Staffing	Staffing	Delta	FACTOR	RATING
L	Norfolk		0.91	90.5	4.8	95.3	0.0	7	35	1	43				0	46	5	51	43	-8	0	0	0	51	43	-8	0.84	2
L	NNSY		0.91	58.0	2.7	60.7	0.6	4	27	1	32				0	34	3	37	32	-5	0	0	0	37	32	-5	0.86	2
L	Cherry Point		0.92	45.8	2.4	48.2	13.1	3	19.5		22.5		6.5		6.5	27	3	29	23	-7	7	7	0	36	29	-7	0.81	2
L	Jacksonville, NC		0.9	100.0	7.6	107.6	10.3	6	29	4	39		7		7	49	8	57	39	-18	5	7	2	62	46	-16	0.74	3
L	Little Creek		0.91	18.0	0.7	18.7	0.0	3	13		16				0	10	1	11	16	5	0	0	0	11	16	5	1.42	1
L	Oceana		0.91	57.0	1.5	58.5	0.0	5	17		22				0	33	2	35	22	-13	0	0	0	35	22	-13	0.63	3
L	Yorktown		0.91	25.0	2.1	27.1	0.2	2	13		15				0	15	2	17	15	-2	0	0	0	17	15	-2	0.88	2
L	Azores		1.24	4.0	0.3	4.3	0.0	0	2		2				0	2	0	3	2	-1	0	0	0	3	2	-1	0.76	3
L	Gitmo		1.51	20.0	0.7	20.7	13.0	2	8		10		7		7	10	1	11	10	-1	6	7	1	17	17	0	0.99	2
L	Argentia		1.26	0.0	0.0	0.0	0.6	0	0		0				0	0	0	0	0	0	0	0	0	0	0	0	0.00	
L	Panama		1.06	1.0	0.1	1.1	2.0	0	2		2		1		1	1	0	1	2	1	1	1	0	2	3	1	1.64	1
L	Iceland		3.2	37.0	2.2	39.2	43.2	3	9		12		4		4	11	1	12	12	0	14	4	-10	27	16	-11	0.60	4
L	Roosevelt Roads		1.05	45.0	2.4	47.4	18.4	6	18	2	26		9		9	28	3	31	26	-5	10	9	-1	41	35	-6	0.85	2
	LANTOPS Total			**501**	**27**	**528**	**101**	**41**	**193**	**8**	**242**	**0**	**35**	**0**	**35**	**268**	**28**	**293**	**242**	**-52**	**45**	**35**	**-11**	**338**	**276**	**-62**		
N	New London		1.11	49.0	0.4	51.4	12.0	2	12	1	15		1		1	26	2	28	15	-13	6	6	11	34	33	-1	0.97	2
N	Brunswick		0.95	9.3	2.9	10.1	3.4	2	9	0	12		2		1	1	1	0	13	0	2	2	1	7	12	5	1.75	1
N	North Maine		1.02	7.2	0.3	0.8	3.4	2	0	0	1		1		1	1	0	0	1	3	0	1	1	4	8	4	1.80	1
N	Portsmouth		1.05	21.9	2.9	22.9	0.6	3	11	1	11		2		1	11	1	13	13	2	3	2	0	15	17	2	1.11	1
N	Earle		1.15	22.6	0.6	71.2	7.2	3	13	0	11		1		1	11	1	11	13	1	3	1	11	16	14	-2	0.93	2
N	Lakehurst		1.15	15.2	0.6	12.8	0.9	2	11	1	11		2		1	9	1	9	11	6	3	2	11	11	16	5	1.45	1
N	East PA		1.04	35.9	2.9	38.8	0.6	3	11	1	15		2		1	10	3	23	15	11	2	2	0	25	22	-3	0.89	2
N	Mechanicsburg		0.97	24.4	0.6	25.1	0.8	2	8	0	1		3		1	11	1	13	1	9	2	0	1	17	10	-7	0.60	4
N	Philadelphia		1.09	18.4	0.4	20.8	3.5	2	9	0	12		2		1	10	2	11	13	-2	2	2	0	14	12	-2	0.86	2
N	Newport		1.09	63.8	0.6	66.7	17.1	2	13	2	11		1		0	34	0	37	11	-13	6	6	11	45	30	-15	0.67	3
	NorthDiv Total			**288**	**15**	**282**	**61**	**27**	**115**	**6**	**146**	**0**	**26**	**0**	**26**	**143**	**14**	**158**	**148**	**-10**	**30**	**26**	**-4**	**187**	**174**	**-13**		
C	Andrews		0.96	0.0	0.0	0.0	0.0				0				0	0	0	0	0	0	0	0	0	0	0	0		
C	Bethesda		0.96	38.9	2.9	38.8	3.5	2	9		13		2		1	22	1	11	13	-13	2	2	0	25	12	-13	0.48	4
C	NDW		0.96	100.0	0.4	104.7	3.5	11	34	6	50		1		1	50	1	50	50	11	2	1	-1	54	51	-3	0.95	2
C	Dahlgren		0.92	31.2	0.6	31.8	3.2	2	11		13		1		1	13	1	13	13	1	2	1	11	20	14	-6	0.65	3
C	Indian Head		0.88	23.2	0.4	23.9	0.9	2	11		11		1		1	11	1	11	11	0	8	1	0	18	18	0	1.00	2
C	BRAC		0.96	0.0	0.0	0.0	0.0				0				0	0	0	0	0	0	0	0	0	0	0	0	0.00	
C	PAX River		0.86	41.9	2.9	44.5	20.8	3	11	2	26		10		10	11	3	13	26	11	13	13	13	41	36	-5	0.88	2
C	Quantico		0.92	68.1	3.1	71.2	0.9	2	11		13		1		1	69	3	11	13	-24	3	8	1	46	23	-23	0.50	4
C	USNA		0.87	61.2	2.9	63.8	0.0	3	23	2	11		2		1	34	3	69	11	-12	2	2	11	43	29	-14	0.68	3
C	09F		0.96	0.0	0.0	0.0	0.0				0				0	0	0	0	0	0	0	0	0	0	0	0		
	EFA Chea Total			**365**	**15**	**380**	**55**	**26**	**124**	**9**	**159**	**0**	**24**	**0**	**24**	**202**	**16**	**218**	**159**	**-59**	**29**	**24**	**-5**	**247**	**183**	**-64**		
M	Aviano		1.13	35.0	2.9	33.5	0.0	2	8	0	13				0	11	1	22	13	11	0	0	0	22	13	-9	0.59	3
M	Vicenza		1.13	16.5	0.6	17.5	0.0	2	8	1	13				0	10	1	11	13	11	0	0	0	11	10	-1	0.91	2
M	Southern Italy		1.2	2.0	0.6	3.5	0.0	2	2		0		1		0	1	2	0	0	0	0	0	0	7	11	4	1.57	1
M	La Maddalena		1.21	2.0	0.4	2.1	1.6	3			0				0	1	0	1	0	1	0	0	11	2	5	3	2.49	1
M	Sigonella		1.22	32.0	0.6	33.5	0.0	3	13	2	11		1		0	15	2	10	11	13	3	0	0	25	25	0	0.99	2
M	London		1.43	7.0	0.4	0.0	0.0		6	1	0		1		0	1	0	1	1	2	0	1	0	5	7	2	1.37	1
M	Rota		1.04	12.0	0.4	12.7	0.0	2	8	1	13		1		1	1	1	1	13	1	0	0	1	13	19	6	1.46	1
M	Souda Bay		0.74	7.0	0.6	0.0	3.4	2	8	2	0		2		1	1	1	1	0	3	2	2	0	8	11	3	1.37	1
M	Bahrain		1.56	3.0	0.4	3.4	0.0	2	2		0		1		1	1	0	2	0	1	2	0	11	4	4	0	0.94	3
M	Cairo		1.28	0.0	0.0	0.0	0.4				0				0	0	0	0	0	0	0	0	0	0	0	0	0.00	
	EFA Med Total			**117**	**7**	**123**	**39**	**20**	**49**	**10**	**79**	**0**	**26**	**0**	**26**	**69**	**7**	**77**	**79**	**2**	**21**	**26**	**5**	**98**	**105**	**7**		
	LANT TOTAL			**1250**	**64**	**1314**	**257**	**114**	**481**	**33**	**628**	**0**	**111**	**0**	**111**	**0**	**681**	**65**	**746**	**628**	**-118**	**125**	**111**	**-14**	**871**	**738**	**-133**		
P	MCBH		1.54	75.1	0.0	75.1	0.0	4	26		30		0		0	36	0	36	30	-6	0	0	0	36	30	-6	0.83	2
P	Pearl Harbor		1.48	153.0	25.0	178.0	120.0	11	120		131		94		94	55	12	68	131	63	59	94	35	127	225	98	1.77	1
P	Marianas		2	67.5	10.0	77.5	10.0	3	26		29		12		12	29	4	33	29	-4	4	12	8	37	41	4	1.10	1
P	Singapore		1.5	1.0	0.0	1.0	3.5	0.5	1.5		2		3.5		3.5	1	0	1	2	1	2	4	2	2	5.5	3	2.46	1
P	Diego Garcia		2.45	3.5	0.0	3.5	26.0	0.5	3.5		4		7		7	1	0	1	4	3	10	7	-3	11	11	0	1.00	1
P	Johnston		2.11	0.0	0.0	0.0	31.0		0		0		3		3	0	0	0	0	0	13	3	-10	13	3	-10	0.23	4
P	OICC FE/Yoko		1.56	35.5	4.2	39.7	13.6	2	19		21		0		0	18	2	20	21	1	7	0	-7	26	21	-5	0.80	3
P	Sasebo		1.56	6.9	1.7	8.6	6.4	1	8		9		0		0	3	1	4	9	5	3	0	-3	7	9	2	1.29	1
P	Okinawa		1.49	17.2	4.4	21.6	16.1	4	16		20		0		0	9	2	11	20	9	8	0	-8	19	20	1	1.05	1
P	Atsugi		1.64	5.5	1.5	7.0	8.1	1	6		7		0		0	3	1	3	7	4	3	0	-3	6	7	1	1.12	1
P	Iwakuni		1.47	5.6	1.5	7.1	2.2	1	6		7		0		0	3	1	4	7	3	1	0	-1	5	7	2	1.48	1
P	Chinhae		1.06	0.5	0.1	0.6	0.2	1	2		3		0		0	0	0	0	3	3	0	0	0	0	3	3	6.56	1
P	Misawa		1.58	0.3	0.1	0.4	0.4	1	1		2		0		0	0	0	0	2	2	0	0	0	0	2	2	5.13	1
	PAC Total			**372**	**49**	**420**	**235**	**30**	**235**	**0**	**265**	**0**	**120**	**0**	**120**	**158**	**23**	**182**	**265**	**30**	**110**	**120**	**9**	**292**	**385**	**93**		
SW	Barstow		1.17	13.5	1.5	15.0	1.5	1	7		8		2		2	7	1	8	8	0	1	2	1	9	10	1	1.11	1
SW	China Lake		1.29	30.3	3.4	33.7	20.6	3	13		16		5		6	15	3	18	15	-3	9	6	-3	27	22	-5	0.81	2
SW	Coronado		1.15	38.9	4.3	43.2	0.0	3	11		14		0		0	20	4	24	14	-10	0	0	0	24	14	-10	0.58	4

Table 5. NFOR Staffing vs Actual

	TypeI Factor	1.8		OS LANT	1.15	C2	0.8																								
	TypeII Factor	1		OS PAC	1.15	C3	0.6																								
	Service Factor	2		$70M	4																										
	Afc Factor	2		FACTOR																											
	Afs Factor	3																													
								FY99	FY99	FY99	FY99	FY99	FY99	FY99	FY99	Algorithm	Algorithm	Algorithm	OnBoard				OnBoard							
				FY99	FY99	FY99	FY99	On-Board	On-Board	On-Board	On-Board	On-Board	On-Board	On-Board	On-Board	Type I	Type II	Constr	Constr		Algorithm	FSC	Staffing		Algorithm	OnBoard				
				Type I WIP	Type II WIP	Total WIP	Serv WIP	Constr	Constr	Constr	Constr	FSC	FSC	FSC	FSC	Constr	Constr	Staffing	Staffing	Constr	FSC	Staffing	Subtotal	FSC	Total	Total	Total	C	C	
Div	Field Office		ACF	$M	$M	$M	$M	Military	Civilian	Contractor	Total	Military	Civilian	Contractor	Total	Staffing	Staffing	Subtotal	Subtotal	Delta	Staffing	Subtotal	Delta	Staffing	Staffing	Staffing	FACTOR	RATING		
SW	El Centro		1.2	15.6	1.7	17.3	9.5	1	4		5		1		1	8	2	9	5	-4	4	1	-3	14	6	-8	0.43	4		
SW	Miramar		1.15	76.9	8.5	85.4	0.0	4	20		24		0		0	38	8	46	24	-22	0	0	0	46	24	-22	0.52	4		
SW	Camp Pendleton		1.14	124.3	13.8	138.1	14.5	9	46		55		6		6	49	13	62	55	-7	7	6	-1	69	61	-8	0.89	2		
SW	Pt. Mugu		1.13	54.2	6.0	60.2	11.3	5	27		32		5		5	28	6	34	32	-2	5	5	0	39	37	-2	0.94	2		
SW	Bridgeport		1.2	0.0	0.0	0.0	0.0	0	2.5		2.5		0.5		0.5	0	0	0	3	3	0	1	1	0	3	3				
SW	San Diego		1.15	30.3	3.4	33.7	0.0	3	8		11		0		0	16	3	19	11	-8	0	0	0	19	11	-8	0.58	4		
SW	Point Loma		1.15	31.9	3.5	35.4	0.0	2	11		13		0		0	16	3	20	13	-7	0	0	0	20	13	-7	0.65	3		
SW	El Toro		1.11	15.8	1.8	17.6	1.0	1	6		7		1		1	8	2	10	7	-3	0	1	1	11	8	-3	0.76	3		
SW	Los Angeles		1.11	17.0	1.9	18.9	4.0	1	16		17		2		2	9	2	11	17	6	2	2	0	13	19	6	1.50	1		
SW	29 Palms		1.32	24.7	2.7	27.4	4.2	2	10		12		3		3	12	2	14	12	-2	2	3	1	16	15	-1	0.93	2		
SW	Yuma		1.09	29.1	3.2	32.3	7.0	1	8		9		1		1	15	3	19	9	-10	3	1	-2	22	10	-12	0.45	4		
	SWDiv Total			**503**	**56**	**558**	**74**	**36**	**190**	**0**	**226**	**0**	**27**	**0**	**28**	**241**	**52**	**293**	**225**	**-69**	**35**	**28**	**-7**	**328**	**253**	**-75**				
NW	Bremerton		1.16	14.9	1.7	16.6	21.3	4	11		15		10		10	8	2	9	15	6	10	10	0	19	25	6	1.29	1		
NW	Everett		1.09	5.8	0.65	6.45	6.7	0	5		5		6		6	3	1	4	5	1	3	6	3	7	11	4	1.50	1		
NW	NAS Whidby Island		1.13	23.4	2.6	26	26	2	9		11		5		5	12	2	15	11	-4	12	5	-7	27	16	-11	0.59	4		
NW	Silverdale		1.11	25.3	0.78	26.08	55.3	5	12		17		12		12	13	1	14	17	3	27	12	-15	41	29	-12	0.71	3		
	EFA NW Total			**69**	**6**	**75**	**109**	**11**	**37**	**0**	**48**	**0**	**33**	**0**	**33**	**36**	**5**	**42**	**48**	**6**	**52**	**33**	**-19**	**94**	**81**	**-13**				
CW	Concord		1.15	32.5		32.5	0.0	2	6		8		0		0	17	0	17	8	-9	0	0	0	17	8	-9	0.48	4		
CW	Fallon		1.25	30.0		30.0	19.0	4	10		14		1		1	15	0	15	14	-1	9	1	-8	24	15	-9	0.64	3		
CW	Lemoore		1.05	68.0		68.0	3.9	4	16		20		1		1	37	0	37	20	-17	2	1	-1	39	21	-18	0.54	4		
CW	Monterey		1.16	27.0		27.0	7.0	1	9		10		0		0	14	0	14	10	-4	3	0	-3	17	10	-7	0.59	4		
CW	Travis		1.23	49.7		49.7	0.0	3	15		18		0		0	25	0	25	18	-7	0	0	0	25	18	-7	0.72	3		
	EFA CW Total			**207**	**0**	**207**	**30**	**14**	**56**	**0**	**70**	**0**	**2**	**0**	**2**	**0**	**107**	**0**	**107**	**70**	**-37**	**14**	**2**	**-12**	**121**	**72**	**-49**	**0.59**	**4**		
	SWEST TOTAL			**779**	**61**	**841**	**213**	**61**	**283**	**0**	**344**	**0**	**82**	**0**	**83**	**0**	**385**	**57**	**442**	**343**	**-99**	**101**	**83**	**-39**	**543**	**406**	**-137**	**0.75**	**3**		
S	Albany, GA		0.8	5.5	2.0	8.5	6.0	1	8	2	11		1	0	1	4	2	6	11	5	3	1	-2	9	12	3	1.27	1		
S	Atlanta, GA		0.93	5.7	0.2	5.9	0.4	0	4.5	2	6.5		0.5	0	0.5	3	0	3	7	3	0	1	0	4	7	3	1.90	1		
S	Barksdale, LA		0.86	13.6	0.0	13.6	0.0	4	8	0	12		0	0	0	8	0	8	12	4	0	0	0	8	12	4	1.48	1		
S	Beaufort, SC		1.03	35.2	2.0	37.2	6.0	4	18	3	23		2	0	2	19	2	21	23	2	3	2	-1	24	25	1	1.03	1		
S	Charleston, SC		0.96	45.7	0.0	45.7	0.0	3	19	1	23		0	0	0	27	0	27	23	-4	0	0	0	27	23	-4	0.84	2		
S	Fort Worth, TX		0.94	33.2	2.1	35.3	6.4	3	14	1	18		2	0	2	19	2	21	18	-3	3	2	-1	24	20	-4	0.83	2		
S	Gulfport, MS		0.88	47.0	0.6	47.6	2.3	4	18	5	27		2	0	2	28	1	28	27	-1	1	2	1	30	29	-1	0.96	2		
S	Jacksonville, FL		0.9	75.0	0.0	75.0	2.5	7	35.5	3	45.5		1.5	0	1.5	42	0	42	46	3	1	2	0	44	47	3	1.06	1		
S	Key West, FL		1.08	31.9	0.7	32.6	0.1	3	9	6	18		2	0	2	17	1	18	18	0	0	2	2	18	20	2	1.12	1		
S	Kings Bay FSC, GA		0.92	3.2	7.4	10.6	29.6	0	1.5	0	1.5		6.5	0	6.5	2	8	10	2	-8	15	7	-9	25	8	-17	0.32	4		
S	Memphis, TN		0.87	22.6	3.5	26.1	11.5	2	10.75	1	13.75		1.25	2	3.25	13	4	17	14	-3	6	3	-3	23	17	-6	0.74	3		
S	Meridien, MS		0.88	16.6	0.4	17.0	1.2	1	4.5	2	7.5		1.5	0	1.5	10	0	10	8	-3	1	2	1	11	9	-2	0.83	2		
S	New Orleans, LA		0.93	38.9	1.2	40.1	3.7	4	12	5	21		4	0	4	22	1	24	21	-3	2	4	2	26	25	-1	0.98	2		
S	Panama City, FL		0.85	2.9	0.5	3.4	3.1	1	3	1	5		1	0	1	2	1	2	5	3	2	1	-1	4	6	2	1.53	1		
S	Pensacola, FL		0.88	23.2	2.1	25.3	6.8	4	13.5	1	18.5		1.5	0	1.5	14	2	16	19	3	4	2	-2	19	20	1	1.05	1		
S	South Texas, TX		0.92	32.8	3.4	36.2	13.6	4	23.25	0	27.25		3.75	0	3.75	19	4	23	27	5	7	4	-3	30	31	1	1.05	1		
	SouthDivTotal			**434**	**28**	**480**	**93**	**45**	**201**	**33**	**279**	**0**	**31**	**2**	**33**	**250**	**27**	**277**	**279**	**1**	**46**	**33**	**-18**	**325**	**311**	**-14**				
MW	Crane, IN		1.05	31.0	1.0	32.0	4.0	3	16.5	0	19.5		0.5	0	0.5	1	17	1	18	20	2	2	1	-1	20	20	0	1.01	1		
MW	Great Lakes, IL		1.26	69.0	0.0	69.0	0.0	6	14	0	20		0	0	0	0	34	0	34	20	-14	0	0	0	34	20	-14	0.59	4		
	EFA MidWest Total			**100**	**1**	**101**	**4**	**9**	**31**	**0**	**40**	**0**	**1**	**0**	**1**	**1**	**51**	**1**	**52**	**40**	**-12**	**2**	**1**	**-1**	**54**	**40**	**-14**				
	SOUTH TOTAL			**534**	**27**	**581**	**97**	**54**	**231**	**33**	**316**	**0**	**31**	**2**	**33**	**1**	**301**	**28**	**329**	**318**	**-11**	**50**	**33**	**-17**	**379**	**351**	**-28**	**0.93**	**2**		
	GRAND TOTAL			**2935**	**201**	**3136**	**602**	**259**	**1229**	**68**	**1554**	**0**	**323**	**2**	**326**	**1**	**1524**	**174**	**1698**	**1553**	**-199**	**388**	**326**	**-61**	**2064**	**1880**	**-205**	**0.90**	**2**		

Table 5. NFOR Staffing vs Actual

Taking a look at the summary chart in Table 5, Total Deltas are: LantDiv -133, SouthDiv -28, PacDiv 93 and SouthWestDiv -137. The NAVFAC Total Delta is -205. C Ratings are: LantDiv 2, SouthDiv 2, PacDiv 1 and SouthWestDiv 3 for an overall 2 NAVFAC C Rating. NAVFAC and the EFDs agreed these C ratings properly reflected existing field office readiness.

In Table 5, all EFD Total Deltas are negative except for PacDiv. This deserves a closer look. Looking at the PacDiv numbers in the Table 5 spreadsheet, all PacDiv field office Total Deltas are less than 5 except for Pearl Harbor where the Total Delta is a high 98. This leads us to believe the Pearl Harbor field office is well overstaffed.

Pearl Harbor has a 1.77 C Factor (Overall Staffing Rating). Also under PacDiv there are Overall Staffing Ratings of 2.46 at Singapore and 6.26 at Chinhae, but these are small offices both with Total Deltas of 3. Although the Pearl Harbor Overall Staffing Rating is smaller, on board staffing is significantly larger at 225 and algorithm staffing is at 127.

DAWIA Training (TNG D1)

1. The Defense Acquisition Workforce Improvement Act (DAWIA) of 1990 establishes minimum requirements in education and contract experience and training for Department of Defense military and civilian Contracting Officers (KO).

2. The DAWIA training readiness measure is % attainment of DAWIA requirements appropriate for personnel grade and series:

$$D1 = \frac{\text{Actual Number of Personnel meeting DAWIA requirements for grade/series}}{\text{Total Number of Personnel requiring DAWIA for grade and series}}$$

ROICC field office DAWIA requirements by grade and series are defined in the NAVFAC P-68 Contracting Manual. Ensign AROICCs and newly hired contracting personnel with less than 12 months on board should not be included in the D1 calculation. Within their first 12 months on board, these personnel should complete all requirements for DAWIA Level I certification. If these personnel complete DAWIA Level I requirements prior to 12 months on board, then they should be included in the D1 calculation to improve the field office DAWIA training readiness rating.

3. Readiness Measure. Calculate D1 and refer to the below criteria to determine the office TNG D1 readiness rating.

OSR Range	DAWIA Readiness Rating
.8 to 1	C1
.6 to .7	C2
.3 to .5	C3
< .3	C4

Professional Registration (TNG R1)

1. The professional registration R1 calculation is:

$$R1 = \frac{\text{Number of Registered Engineers and Registered Architects (Include all)}}{\text{Number of LTs (with 8 years or more service) and above plus GS13s (800 series) and above}}$$

2. Readiness Measure. Calculate R1 and refer to the criteria below to determine the office TNG R1 readiness rating.

OSR Range	Professional Registration Rating
.7 to .1	C1
.4 to .6	C2
.2 to .3	C3
≤ .2	C4

Quality Assurance Training (TNG Q1)

1. The Quality Assurance readiness measure is % attainment of quality assurance requirements appropriate for personnel grade and series:

$$Q1 = \frac{\text{Number of QA Training Requirements Met for all grades and series}}{\text{Total Number of QA Training Requirements for all grades and series}}$$

ROICC field office quality assurance training requirements by grade and series are defined in the NAVFAC P-445 Construction Contract Quality Management and NAVFAC P-68 Contracting Manual.

2. Readiness Measure. Calculate Q1 and refer to the criteria below to determine the office TNG Q1 readiness rating.

OSR Range	Quality Assurance Rating
.90 to 1.0	C1
.75 to .89	C2
.65 to .74	C3
< .65	C4

Vehicles (EQP V1)

1. The vehicle readiness measure compares the actual number of vehicles assigned to the field office against a common standard. The standard is one vehicle per quality assurance person (ConReps, Engr Techs, NTRs) plus one vehicle for every two post-award contract administration personnel (AROICCs, Engineers) (NAVFAC, 1999). The vehicle measure is:

$$V1 = \frac{\text{Actual Number of vehicles assigned}}{\text{Total Number of vehicles required to meet standard}}$$

2. Readiness Measure. Calculate V1 and refer to the criteria below to determine the office EQP V1 readiness rating.

OSR Range	Vehicle Readiness Rating
.8 to 1	C1
.5 to .7	C2
.3 to .4	C3
< .3	C4

Information Technology (EQP IT1)

1. The Information Technology measure compares the field office information technology status to the NAVFAC standard. Based on Department of Defense and Navy Automated Information Systems (AIS) guidance, NAVFAC has developed Corporate minimum AIS standards for the near future. These standards represent front-end market technology, are dynamic in nature and will continue to be closely linked to commercial trends. They are intended to be minimum standards and will change as technology improves. The IT1 through IT6 ratings are intended to represent an adequate cross section of these standards, assessing hardware, software, server, and connectivity capabilities (NAVFAC, 1999).

2. Standard hardware is defined as:

- 200 MHz Pentium Pro CPU
- 64 MB EDO RAM
- 3.0 GB HD
- 3.5 inch floppy disk drive
- 8X IDE CD-ROM
- Dual PCMCIA/PC Card Reader
- PCI Video with 2MB RAM

- 17 inch monitor (1280-1024)
- Pointing device (trackball or mouse) and keyboard
- SoundBlaster (compatible) audio card with speakers
- CPU compatible 100 MBS fast Ethernet NIC

3. T-1. A dedicated phone connection supporting data rates of 1.544Mbits per second. A T-1 line actually consists of 24 individual channels, each of which supports 64Kbits per second. Each 64Kbit/second channel can be configured to carry voice or data traffic (NAVFAC, 1999).

4. Standard Procurement System (SPS). SPS is the standardized automated procurement system for use by the DOD procurement community. It is the next generation of procurement application software that will link acquisition reform and common DOD procurement business processes with commercial best practices and advances in electronic commerce. It is the cornerstone of the Navy's paperless acquisition effort. SPS Supports the entire procurement process from Request For Proposal through contract closeout, including contractor payment (NAVFAC, 1999).

5. Calculate the IT1 through IT6 ratios, multiply by weight, then sum.

		Weight	
IT1 =	Number of 586 pentium Or better desktop PCs / Total Field Office Staff	50	_____
IT2 =	Number of PCs with standard hardware / Number of PCs	10	_____
IT3 =	Number of PCs with MS-Office 97 / Number of PCs	20	_____
IT4 =	Number of Servers with MS Windows NT 4.0 or higher / Number of servers in field office	10	_____
IT5 =	T-1 connectivity or better *("1" for Yes, or "0" for No)*	5	_____
IT6 =	Standard Procurement System (SPS) implementation *("1" for Yes, or "0" for No)*	5	_____
IT TOTAL			_____

6. Readiness Measure. Calculate IT TOTAL and refer to the criteria below to determine the office EQP IT readiness rating.

OSR Range	Information Technology Rating
85 to 100	C1
60 to 84	C2
40 to 59	C3
< 40	C4

Field Office Reporting

The staffing, personnel qualification and equipment readiness ratings are compiled on the NFOR Chapter 7 reporting form (see next page). Each measure is weighted for an overall field office readiness rating.

STEP-BY-STEP PROCEDURES FOR REPORTING

701. General Information. **Complete items 1, and 2 below.**

1. Description, Location of Field Office_____
(Enter the description and location of the field office)

2. Head of Field Office, phone #_____
(Enter the name and number of the head of the field office)

702. C Ratings. **Complete items 1 through 6 below.** *(Enter the ratings derived from applying the criteria contained in Chapters 4, 5 and 6. Enter the ratings on the left as 1, 2, 3, or 4, multiply by the weight, add ratings on the right to arrive at final rating.)*

		Weight	**Rating** *(do not round)*
1. **PER C RATING =** *(From Chapter 4)*	_____	.35	_____
2. **TNG D1 C RATING =** *(From Chapter 5)*	_____	.15	_____
3. **TNG R1 C RATING =** *(From Chapter 5)*	_____	.10	_____
4. **TNG Q1 C RATING =** *(From Chapter 5)*	_____	.20	_____
5. **EQP V1 C RATING =** *(From Chapter 6)*	_____	.05	_____
6. **EQP IT C RATING =** *(From Chapter 6)*	_____	.15	_____

703. **FINAL RATING:** _____
(add ratings above, do not round this final rating)

704. **ROICC SUBJECTIVE RATING** _____ *(enter as 1, 2, 3,or 4)*

705. **EFD CO SUBJECTIVE RATING** _____ *(enter as 1, 2, 3,or 4)*

706. **SUPPLEMENTAL INFORMATION:** *(The field office and EFD can provide a subjective assessment of the field office's current ability to execute its assigned mission, and narrative comments/supplemental information. Evaluate Morale, Leadership,*

Projected Workload, and Client Satisfaction in providing this assessment, if appropriate. Narrative information will address unique considerations such a geographic area covered, transit times to distant projects, unusual weather considerations, and other factors. Final ratings of C3 or C4 require a summary of the problem, what caused the situation, and proposed solution(s). Detailed information should be provided on the resources, etc. required to correct the readiness deficiencies. (NAVFAC, 1999)

NFOR MAY 99

The first NFOR reports were due and submitted to NAVFAC in May 1999. The results are shown in Table 6. The Table 5 PER C Ratings are included in the first column and the reported PER C Rating in the second column. The difference between the two is reported in the third column "Table 5 - Reported Staffing". If the NFOR reports agree with Table 5 the column three value will be zero. Percentages of May 1999 reported field office PER C Ratings agreeing with Table 5 are:

1. LantOps	4/11 =	36%
2. North Div	6/10 =	60%
3. EFA Ches	2/8 =	25%
4. EFA Med	6/10 =	60%
5. Pac Div	6/13 =	46%
6. SouthWest Div	5/12 =	42%
7. EFA NorthWest	no report	
8. EFA West	no report	
9. South Div	12/18 =	67%

This low percentage of May 1999 reported field office PER C Ratings agreeing with Table 5 is due to changes in office staff size, but more due to constantly changing projected WIP.

Table 6. May 1999 NFOR Reports, 1

Div	Field Office	Table 5 C Rating	Reported Staffing PER	Table 5 - Reported Staffing	DAWIA TNG D1	Professional Registration TNG R1	Conrep/Tech Training TNG T1	Vehicles EQP V1	Information Technology EQP IT	Final Rating	ROICC Subjective Rating	EFD CO Subjective Rating
L	Norfolk	2	1	1	2	2	1	1	1	2.00	2	2
L	NNSY	2	3	-1	1	1	1	1	1	1.70	3	2
L	Cherry Point	2	2	0	1	1	2	1	1	1.55	2	2
L	Jacksonville, NC	3	2	1	1	1	1	1	2	1.50	1	1
L	Little Creek	1	1	0	1	1	2	1	2	1.35	2	2
L	Oceana	3	2	1	1	1	1	1	1	1.35	2	2
L	Yorktown	2	2	0	1	1	1	1	1	2.00	2	2
L	Azores	3	1	2	1	4	1	1	4	1.75	2	2
L	Gitmo	2	2	0	1	1	4	1	2	2.10	3	3
L	Argentia		N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
L	Panama(closes 5/99)	1	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
L	Iceland	4	1	3	1	1	3	1	1	1.40	1	1
L	Roosevelt Roads	2	3	-1	3	1	2	1	1	2.20	2	2
N	New London	2	3	-1	1	1	2	1	2	2.05	2	2
N	Brunswick	1	1	0	1	N/A	1	1	1	0.90	1	1
N	North Maine	1	1	0	1	1	3	1	1	1.40	2	2
N	Portsmouth	1	1	0	3	1	3	1	2	1.85	2	2
N	Earle	2	2	0	2	1	1	1	2	1.65	2	2
N	Lakehurst	1	2	-1	1	4	2	1	1	1.85	2	2
N	East PA	2	2	0	2	1	1	1	2	1.65	1	2
N	Mechanicsburg	4	3	1	1	1	2	1	2	2.05	2	2
N	Philadelphia	2	1	1	2	2	3	2	1	1.70	2	2
N	Newport	3	3	0	1	1	2	2	3	2.25	3	3
C	Bethesda	4	2	2	1	3	3	1	3	2.25	2	2
C	NDW	2	3	-1	1	3	4	1	4	2.95	3	3
C	Dahlgren	3	3	0	1	2	2	1	1	2.00	2	2
C	Indian Head	2	1	1	2	1	3	1	2	1.70	2	2
C	BRAC		3		3	1	3	3	2	2.65	3	3
C	PAX River	2	3	-1	2	1	2	1	2	2.20	2	2
C	Quantico	4	3	1	1	1	2	1	2	2.05	2	2
C	USNA	3	3	0	1	1	3	2	1	2.15	2	2
M	Aviano	3	1	2	1	1	2	2	3	1.55	2	2
M	Vicenza	2	2	0	1	1	2	2	2	1.75	1	1
M	Southern Italy	1	1	0	1	1	3	2	2	1.60	2	2
M	La Maddalena	1	1	0	1	N/A	3	1	4	1.75	2	2
M	Sigonella	2	1	1	1	2	2	1	2	1.45	2	2
M	London	1	1	0	1	N/A	3	3	3	1.70	2	2
M	Rota	1	1	0	1	2	3	1	4	1.95	2	2
M	Souda Bay	1	1	0	1	N/A	2	2	3	1.45	2	2
M	Bahrain	2	1	1	1	1	3	3	3	1.80	2	2
M	Cairo		4		1	N/A	N/A	N/A	2	N/A	2	3
OICC	Naples		2		1	1	4	4	3	2.40	2	2
P	MCBH	2	3	-1	1	1	2	1	2	2.05	2	2
P	Pearl Harbor	2	1	-10	1	1	2	2	2	1.40	2	2
P	Marianas	1	2	-1	1	1	3	1	1	1.75	2	2
P	Singapore	1	2	-1	2	1	3	2	3	2.25	2	2
P	Diego Garcia	1	1	0	1	1	4	2	1	1.65	1	1
P	Johnston	4	4	0	1	1	1	1	3	2.35	3	3
P	OICC FE/Yoko	3	2	-1	1	1	1	1	2	1.50	2	2
P	Sasebo	1	4	-3	2	1	4	1	2	2.95	2	2
P	Okinawa	1	3	-2	4	4	4	1	4	3.50	3	3
P	Atsugi	1	3	-2	2	2	3	2	2	2.55	2	2
P	Iwakuni	1	1	0	1	1	1	1	2	1.15	1	1
P	Chinhae	1	1	0	1	4	4	4	2	2.20	2	2
P	Misawa	1	1	0	1	4	4	1	1	1.90	2	2

Div	Field Office	Table 5 C Rating	Reported Staffing PER	Table 5 - Reported Staffing	DAWIA TNG D1	Professional Registration TNG R1	Conrep/Tech Training TNG T1	Vehicles EQP V1	Information Technology EQP IT	Final Rating	ROICC Subjective Rating	EFD CO Subjective Rating
SW	Barstow	1	1	0	1	1	3	1	3	1 70	2	2
SW	China Lake	2	3	-1	1	1	2	1	2	2 05	2	2
SW	Coronado	4	3	1	3	1	4	1	2	2 75	3	3
SW	El Centro	4	4	0	1	1	3	2	2	2 65	3	3
SW	Miramar	4	3	1	1	2	3	1	2	2 35	2	2
SW	Camp Pendleton	2	2	0	1	1	2	1	2	1 70	3	3
SW	Pt. Mugu	2	3	-1	1	1	1	1	2	1 85	2	2
SW	Bridgeport									0 00		
SW	San Diego	4								0 00	2	2
SW	Point Loma	3	3	0	1	1	3	2	2	2 30	2	2
SW	El Toro	3	4	-1	2	1	2	1	3	2 70	2	2
SW	Los Angeles	1	2	-1	2	1	2	1	1	1 70	2	2
SW	29 Palms	2	3	-1	2	1	1	1	2	2 00	2	2
SW	Yuma	4	4	0	1	1	4	2	2	2 85	3	3
NW	Bremerton	1		1						0 00		
NW	Everett	1		1						0 00		
NW	NAS Whidby Island	4		4						0 00		
NW	Silverdale	3		3						0 00		
CW	Concord	4		4						0 00		
CW	Fallon	3		3						0 00		
CW	Lemoore	4		4						0 00		
CW	Monterey	4		4						0 00		
CW	Travis	3		3						0 00		
S	Albany, GA	1	1	0	2	1	3	1	2	1 70	2	2
S	Atlanta, GA	1	1	0	1	1	3	2	2	1 60	2	2
S	Barksdale, LA	1	1	0	2	1	3	1	2	1 70	2	2
S	Beaufort, SC	1	2	-1	2	1	1	1	1	1 50	2	2
S	Charleston, SC	2	2	0	1	2	2	1	1	1 65	3	3
S	Fort Worth, TX	2	2	0	1	1	3	1	1	1.75	2	2
S	Gulfport, MS	2	3	-1	1	2	2	1	1	2 00	2	2
S	Jacksonville, FL	1	1	0	1	1	2	1	3	1 50	3	3
S	Key West, FL	1	3	-2	1	1	4	1	2	2 45	2	2
S	Kings Bay FSC, GA	4	4	0	1	0	0	1	2	1 90	2	2
S	Memphis, TN	3	3	0	2	1	3	1	3	2 55	3	3
S	Meridian, MS	2	2	0	1	1	4	1	1	1 95	2	2
S	New Orleans, LA	2	2	0	3	2	4	1	1	2 35	3	3
S	Panama City, FL	1	1	0	1	1	3	1	2	1 55	3	2
S	Pensacola, FL	1	1	0	1	1	3	1	1	1 40	2	2
S	South Texas, TX	1	2	-1	2	2	1	1	2	1 75	2	2
MW	Crane, IN	1	2	-1	1	1	2	1	1	1 55	2	2
MW	Great Lakes, IL	4	3	1	2	1	1	2	1	1 90	1	1

CONCLUSION & RECOMMENDATIONS

NAVFAC has come a long way in establishing the NAVFAC Field Office Readiness system. No system previously existed for NAVFAC to monitor the readiness of their field offices. The NFOR system continues to improve as suggestions come from the field offices and EFDs.

Of all the NAVFAC Field Office Readiness (NFOR) measures, the staffing measure received the most attention. Although the staffing model is only a staffing readiness measure, the EFDs, EFAs and field offices fear the staffing model will eventually be used to determine field office staffing numbers, potentially resulting in understaffed field offices and increased difficulty in executing the ROICC field office mission.

The NFOR reports received at NAVFAC in early May were disorganized. Each EFD submitted their reports in a different format. Every field office is required to complete the NFOR Chapter 7 reporting form and forward it to their EFA or EFD, but there's no need for the Chapter 7 form to be sent on to NAVFAC. Data could be reported by the EFDs to NAVFAC in a more user friendly and efficient manner such as a single spreadsheet.

PacDiv has already created a spreadsheet file for their field offices to use when submitting NFOR reports. The spreadsheet is complex but easy to use. It simply requires the field offices to input office information and the spreadsheet performs all necessary calculations and determines the field office readiness ratings. The other EFDs should adopt the PacDiv spreadsheet and require their field offices to use it when submitting their NFOR reports.

The PacDiv spreadsheet processes NFOR data at the field office to EFD level. Another simple spreadsheet should be created to process NFOR data at the EFD to NAVFAC level. The spreadsheet should be concise and entirely viewable on a single computer screen. The EFD should only be required to input the field office readiness ratings and the spreadsheet would calculate the final rating. Field office and EFD comments should be sent in a separate file. To easily view field office readiness trends each readiness rating should have two columns, one for reporting the new readiness rating and the second for reporting the previous rating. Such a spreadsheet might look like Table 7.

NAVFAC has a few new initiatives they're working on for the NAVFAC Field Office Readiness system. NAVFAC is adding a new readiness measure to the NFOR lineup called

SOUTHDIV NFOR REPORT, 3rd QUARTER FY99

Div	Field Office	PER	TNG D1		TNG R1		TNG T1		EQP V1		EQP IT		Final		ROICC		EFD CO	
T=This Report P=Previous:		T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P
S	Albany, GA		1		2		1		3		1		2		1.70		2		2
S	Atlanta, GA		1		1		1		3		2		2		1.60		2		2
S	Barksdale, LA		1		2		1		3		1		2		1.70		2		2
S	Beaufort, SC		2		2		1		1		1		1		1.50		2		2
S	Charleston, SC		2		1		2		2		1		1		1.65		3		3
S	Fort Worth, TX		2		1		1		3		1		1		1.75		2		2
S	Gulfport, MS		3		1		2		2		1		1		2.00		2		2
S	Jacksonville, FL		1		1		1		2		1		3		1.50		3		3
S	Key West, FL		3		1		1		4		1		2		2.45		2		2
S	Kings Bay FSC, GA		4		1		0		0		1		2		1.90		2		2
S	Memphis, TN		3		2		1		3		1		3		2.55		3		3
S	Meridian, MS		2		1		1		4		1		1		1.95		2		2
S	New Orleans, LA		2		3		2		4		1		1		2.35		3		3
S	Panama City, FL		1		1		1		3		1		2		1.55		3		2
S	Pensacola, FL		1		1		1		3		1		1		1.40		2		2
S	South Texas, TX		2		2		2		1		1		2		1.75		2		2
MW	Crane, IN		2		1		1		2		1		1		1.55		2		2
MW	Great Lakes, IL		3		2		1		1		2		1		1.90		1		1

Table 7, Proposed EFD NFOR Report Form

"Facility". This new rating category will be a subjective rating that will rate quality of life aspects for the field office staff. It will consider parking for staff, office climate control, furniture, office space, telephone availability, restroom availability and condition, office and surrounding aesthetics, office safety, ergonomics, lighting, location of office to customers, and support services (food, etc.), security, noise level, availability of conference space, and maintenance (NAVFAC, 1999). Anther update to the NFOR document is in readiness categorization. The "Equipment" category will be renamed "Logistics" and will include the Vehicle, Information Technology and new Facility rating.

Related to the NFOR system, NAVFAC is working to evaluate field office operating costs against gross sales (WIP) to determine if each field office is either earning income or losing money. SouthDiv has already done some work on this as shown in Table 8.

The first columns in Table 8 are all field office operating costs. Total Code 05 (construction) Support is the sum of travel, transportation, miscellaneous support, vehicle maintenance and repair, and safety costs. Total Code 01 Support is financial management support costs. Total Labor Support is the sum of Labor, Total Code 05 and

FY-98 - ACTUAL LABOR AND SUPPORT COSTS BY FIELD OFFICE THROUGH 30 SEPTEMBER - Labor does not include Leave or Fring

ROICC	LABOR	TRAVEL	TRANS	MISC SUPPORT	VEHICLE MNT/RPR	SAFETY	TOTAL CODE 05 SUPPORT	TOTAL CODE 01 SUPPORT	TOTAL LABOR/ SUPPORT	TITLE II/ CASU	GRAND TOTAL
ALBANY	$413,567	$1,236	$0	$28,184	$1,050	$0	$30,470	$1,860	$445,897	$0	$445,897
ATLANTA	$218,100	$650	$0	$11,977	$2,163	$0	$14,790	$0	$232,890	$0	$232,890
BARKSDALE	$540,676	$3,481	$0	$51,945	$9,518	$0	$64,944	$1,470	$607,090	$0	$607,090
BEAUFORT	$946,141	$6,471	$0	$43,238	$2,657	$0	$52,366	$8,551	$1,007,058	$175,083	$1,182,141
CHARLESTON	$1,639,344	$15,487	$0	$50,617	$21,821	$0	$87,925	$26,699	$1,753,968	$0	$1,753,968
FSC KINGS BAY	$376,190	$0	$0	$14,785	$0	$0	$14,785	$4,900	$395,875	$0	$395,875
FORT WORTH	$968,941	$10,124	$0	$56,142	$673	$0	$66,939	$4,285	$1,040,165	$0	$1,040,165
GULFPORT	$815,589	$5,765	$0	$25,674	$20,110	$0	$51,549	$10,411	$877,549	$0	$877,549
JACKSONVILLE	$2,294,401	$17,783	$0	$494,144	$3,564	$129	$515,620	$43,167	$2,853,188	$0	$2,853,188
KEY WEST	$519,815	$5,041	$0	$32,516	$169	$0	$37,726	$12,762	$570,303	$9,878	$580,181
MEMPHIS	$811,366	$4,686	$0	$27,308	$5,091	$0	$37,085	$7,713	$856,164	$2,151	$858,315
MERIDIAN	$309,987	$4,398	$0	$11,851	$2,164	$0	$18,413	$923	$329,323	$17,608	$346,931
NEW ORLEANS	$742,925	$5,825	$0	$38,421	$7,448	$0	$51,694	$12,633	$807,252	$0	$807,252
PANAMA CITY	$190,936	$1,154	$0	$4,518	$774	$0	$6,446	$4,403	$201,785	$0	$201,785
PENSACOLA	$840,445	$17,214	$0	$81,660	$25,655	$0	$124,529	$11,720	$976,694	$0	$976,694
SOUTH TEXAS	$1,523,562	$10,744	$0	$26,361	$7,618	$0	$44,723	$5,304	$1,573,589	$0	$1,573,589
FIELD OFFICE											
TOTAL	$13,151,985	$110,059	$0	$999,341	$110,475	$129	$1,220,004	$156,801	$14,528,790	$204,720	$14,733,510
EFD 05	$1,752,672	$306,642	$7,384	$1,009,684	$7,344	$0	$1,331,054	$0	$3,083,726		$3,083,726
GRAND											
TOTAL	$14,904,657	$416,701	$7,384	$2,009,025	$117,819	$129	$2,551,058	$156,801	$17,612,516	$204,720	$17,817,236

Table 8. Field Office Operating Costs

FY-98 - EXPENSE RATE THROUGH 30 SEPTEMBER

ROICC	INCOME BEARING WIP	NON INCOME BEARING WIP	TOTAL WIP YTD	ACTUAL EXPENSES	EXPENSE RATE	LABOR/ TOTAL WIP	SUPPORT/ TOTAL WIP	ON-BOARD STAFFING		
								MIL	CIV	TOTAL
ALBANY	$6,059,041	$8,712,750	$14,771,791	$445,897	3.02%	2.80%	0.22%	0	9	9
ATLANTA	$4,638,895	$2,926,801	$7,565,696	$232,890	3.08%	2.88%	0.20%	0	5	5
BARKSDALE	$26,818,943	$61,773	$26,880,716	$607,090	2.26%	2.01%	0.25%	4	7	11
BEAUFORT	$31,629,262	$17,998,616	$49,627,878	$1,007,058	2.03%	1.91%	0.12%	4	18	22
CHARLESTON	$122,284,453	$3,050,017	$125,334,470	$1,753,968	1.40%	1.31%	0.09%	3	24	27
FSC KINGS BAY	$1,140,739	$46,613,905	$47,754,644	$395,875	0.83%	0.79%	0.04%	0	8	8
FORT WORTH	$40,820,171	$11,657,425	$52,477,596	$1,040,165	1.98%	1.85%	0.14%	3	17	20
GULFPORT	$28,865,266	$5,858,619	$34,723,885	$877,549	2.53%	2.35%	0.18%	3	17	20
JACKSONVILLE	$38,445,136	$19,859,951	$58,305,087	$2,853,188	4.89%	3.94%	0.96%	6	42	48
KEY WEST	$7,292,178	$14,955,532	$22,247,710	$570,303	2.56%	2.34%	0.23%	3	11	14
MEMPHIS	$31,107,500	$13,373,509	$44,481,009	$856,164	1.92%	1.82%	0.10%	2	13	15
MERIDIAN	$5,650,916	$5,984,039	$11,634,955	$329,323	2.83%	2.66%	0.17%	1	5	6
NEW ORLEANS	$22,416,382	$12,531,863	$34,948,245	$807,252	2.31%	2.13%	0.18%	4	14	18
PANAMA CITY	$6,621,515	$2,783,232	$9,404,747	$201,785	2.15%	2.03%	0.12%	1	3	4
PENSACOLA	$12,146,726	$11,538,727	$23,685,453	$976,694	4.12%	3.55%	0.58%	4	15	19
SOUTH TEXAS	$42,485,770	$12,429,589	$54,915,359	$1,573,589	2.87%	2.77%	0.09%	4	30	34
FIELD OFFICE										
TOTAL	$428,422,893	$190,336,348	$618,759,241	$14,528,790	2.35%	2.13%	0.22%	42	238	280
EFD 05	$0	$0	$0	$3,083,726					25	25
GRAND TOTAL	$428,422,893	$190,336,348	$618,759,241	$17,612,516	2.85%	2.41%	0.44%	42	263	305

Table 8. Field Office Operating Costs

Total Code 01 Support costs. Title II and CASU costs are construction inspection service and administrative support costs. Grand Total is the sum of Total Labor Support and Title II and CASU costs.

Income Bearing WIP is field office military construction (MILCON) where the field office receives funds to cover field office overhead. Non-Income Bearing WIP is field office reimbursable work without funds for overhead. Total WIP YTD is the sum of Income Bearing and Non-Income Bearing WIP. Actual Expenses is equal to Total Labor Support.

The Expense Rate is the Actual Expenses divided by the Total WIP YTD. Labor/Total WIP is the Labor divided by Total WIP YTD. Support/Total WIP is the sum of Total Code 05 and Total Code 01 Support divided by Total WIP YTD, and Labor/Total WIP plus Support/Total WIP equals the Expense Rate.

In Jacksonville, field office operating costs are 4.89% of WIP production while in Charleston, costs are only 1.40% of WIP production. Jacksonville Labor/Total WIP is 3.94% and Charlestons' is 1.31%. Construction and financial management support to total WIP is .96% and .09% respectively. According to this analysis, the Charleston

field office is more efficient than the Jacksonville office.

The NAVFAC Field Office Readiness system serves to reinforce minimum standards for ROICC field offices and identify areas where offices need improvement. It also serves to report readiness to execute the field office construction mission. Possibly more importantly, the NFOR system may serve to show military budget cutters outside NAVFAC how fat or lean the organization is. The military continues to look to reduce redundancies to save money. A question pondered from time to time is whether the Naval Facilities Engineering Command and the Naval Supply Command are redundant. While both serve as acquisition organizations for the Navy, they are justified remaining two separate systems commands because of their specialties.

Bibliography

1. Atlantic Division, Naval Facilities Engineering Command: *ROICC Office Algorithm*, Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA, December 1998.

2. Civil Engineer Corps Detail Office: *State of the Civil Engineer Corps, Fiscal Year 1998*, Navy Personnel Command, NPC-4413, Millington, TN, 1999.

3. Naval Facilities Engineering Command: *Design and Construction Oversight Policy for NAVFAC Construction Work*, Naval Facilities Engineering Command, Washington, D.C., 31 December 1998.

4. Naval Facilities Engineering Command: *Field Office Model*, Naval Facilities Engineering Command, Washington, D.C., February 1999.

5. Naval Facilities Engineering Command: *NAVFAC Field Office Readiness (NFOR) Full Production Version 1.0*, Naval Facilities Engineering Command, Washington, D.C., April 1999.

6. Naval Facilities Engineering Command: *NAVFAC Field Office Readiness Assessment Meeting Minutes*, Naval Facilities Engineering Command, Washington, D.C., May 1999.

7. Naval Facilities Engineering Command: *NAVFAC Mission Statement*, Naval Facilities Engineering Command, Washington, D.C., April 1999.

8. Naval Facilities Engineering Command: *NAVFAC P-68 Contracting Manual*, Naval Facilities Engineering Command, Washington, D.C., November 1998.

9. Naval School, Civil Engineer Corps Officers (CECOS): *ROICC Office Management*, Naval School, Civil Engineer Corps Officers, Port Hueneme, CA, September 1997.

10. Second and Third Naval Construction Brigades, *COMSECONDNCB and CONTHIRDNCB Instruction 3501.1, NMCB Status Of Resources and Training System (SORTS)*, Second and Third Naval Construction Brigades, Norfolk VA and Pearl Harbor HI, July 1995.

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